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The Commonwealth of Massachusetts

28th

ANNUAL REPORT

OF THE

Mass.

FOR THE YEAR ENDING JUNE 30, 1948.



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STATE HOUSE, BOSTON

FOR THE YEAR ENDING JUNE 30, 1952

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THE COMMONWEALTH OF MASSACHUSETTS

Twenty-eighth Annual Report

of the

Department of Public Works

Year Ending June 30, 1948

To the Honorable Senate and House of Representatives of
the Commonwealth of Massachusetts:

In accordance with the provisions of the law, I have the honor, as Commissioner of Public Works, to submit the twenty-eighth annual report of the Department of Public Works for the year ending June 30, 1948.

The organization of the Department as defined in Chapter 16, General Laws, Tercentenary Edition, was as follows:

Commissioner of Public Works:	WILLIAM H. BURACKER
Associate Commissioner:	GEORGE H. HYLAND
Associate Commissioner:	RALPH A. PALLADINO to February 11, 1948 BENJAMIN H. GROUT beginning February 12, 1948
Director, Division of Waterways:	RICHARD K. HALE

During the past year highway planning, design, and construction by the Department progressed rapidly to remove some of the many points of acute traffic congestion, improve some of the many miles of inadequate highways, and to repair bridges of insufficient width and strength.

The Master Highway Plan for the Boston Metropolitan Area was developed from information obtained by a traffic survey by the Department. The Public Roads Administration of the Federal Works Agency also participated in this project.

This Master Plan includes 23 cities and towns in addition to Boston and it proposes a ten-year construction program with its backbone a network of expressways of the latest modern design and of sufficient capacity to take care of the traffic needs of the Area for many years to come. The major expressways will be of the limited access type, providing for swift uninterrupted flow of traffic and with no entering or cross streets except at prescribed points of interchange where grades will be separated.

During this year the Department entered into 77 contracts for State Highway construction and reconstruction. Among these were the resurfacing of the Boston-Worcester Turnpike, the construction of sections of the following routes: the Newburyport Turnpike, the Northern Circumferential Highway, the Kingston-Plymouth By Pass, the Concord-Westminster Highway, the Worcester-Providence Highway, and the Ayer-Shirley Road at Fort Devens.

The Department also awarded contracts for 36 new bridges, 12 contracts for alterations and repair of other structures, while 11 contracts were awarded for maintenance and betterment projects such as electrical and machinery repairs and painting. There were

16,239 openings of the 13 regularly manned drawbridges under the Department jurisdiction.

The maintenance resurfacing program designed to lengthen the life of older pavements was carried out with considerable success, and surface treatments were applied to about 180 miles of State Highway.

Tree trimming, spraying, and planting of trees and shrubs was accomplished. One of these projects to be noted was the planting of trees and shrubs with a suitable monument on a section of the Newburyport Turnpike as a part of the inter-state Blue Star Memorial Highway, a memorial to the veterans of World War II.

Under Section 34, Chapter 90 of the General Laws, there were 544 contracts entered into.

Advice of a traffic engineering nature was given to 33 cities and towns. Highway illumination was installed at 2 traffic circles and similar installations were begun at 3 other points. Under the pavement marking program, the painting of about 3000 miles of white line was accomplished.

Annual reports on State Highway income and expenditures, motor vehicle registration, gasoline gallonage and State Highway mileage were prepared, and a report on the State Highway needs outside of Greater Boston was also prepared.

During the year there were 42 projects in 40 cities and towns involving the settlement of 363 land damage cases, and studies were made for proposed new projects in 24 cities and towns.

There were grade crossing elimination studies in 2 cities and 15 towns and reconnaissance studies for State Highways in 5 cities and 23 towns for a total of 74 miles.

The engineering and clerical staff of the Department was as follows:

Chief Engineer	PHILIP H. KITFIELD
Highway Engineer (Chapter 90)	RAYMOND W. COBURN
Highway Engineer (Traffic)	EDGAR F. COPELL
Highway Engineer (Projects)	GEORGE H. DELANO
Highway Engineer (Maintenance)	JAMES E. LAWRENCE
Highway Engineer (Construction)	FRANCIS T. McAVOY
Bridge Engineer	RALPH O. SPOFFORD

District Highway Engineers:--

District No. 1, GEORGE A. CURTIS:--The cities and towns of Berkshire County; the towns of Worthington, Middlefield and Huntington in Hampshire County and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, CYRIL B. RAYMOND:--The cities and towns of Franklin County; the cities and towns of Hampshire County, except the towns of Huntington, Middlefield and Worthington; the cities and towns of Hampden County, except the towns of Blandford, Brimfield, Chester, Holland, Monson, Montgomery, Palmer, Russell, Tolland and Wales.

District No. 3, MARTIN J. DALTON:--The cities and towns of Worcester County (including the town of Harvard, for construction only) and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, FRED D. SABIN:--The cities and towns of Middlesex County (including the cities of Malden and Melrose, for construction only); the towns of Wellesley and Brookline in Norfolk County; the town of Harvard, for maintenance only, in Worcester County and the city of Boston in Suffolk County.

District No. 5, CHARLES A. FRITZ:--The cities and towns of Essex County; the cities of Malden and Melrose, for maintenance only, in Middlesex County; the town of Winthrop and the cities of Chelsea, Revere and sections of Boston in Suffolk County.

District No. 6, FRANK A. CHASE:--The cities and towns of Norfolk County, except the town of Cohasset; the cities and towns of Bristol County; sections of the city of Brockton in Plymouth County and of the city of Boston in Suffolk County.

District No. 7, LEWIS R. SELLEW:--The cities and towns of Plymouth County (including sections of the city of Brockton); the town of Cohasset in Norfolk County and the towns of Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer

EVERETT N. HUTCHINS

Department Business Agent

FRED FAIR

Secretary

MARY E. McMORROW

A DETAILED REPORT OF THE ACTIVITIES
OF THE DEPARTMENT FOR THE YEAR
IS PRESENTED HEREWITH.

^{and}
Acts & Resolves

Passed by the
General Court of Massachusetts

During the
Session of 1948

Pertaining to the Department of Public Works

ACTS

- Chapter 122 An Act designating the new bridge over the Connecticut River between Greenfield and Montague as the General Frederick E. Pierce Bridge, and designating the State highway between Turners Falls and Greenfield as the DeWolf-Gariepy Memorial Highway.
- Chapter 356 An Act providing for the protection of the shore in the Little Neck section of the town of Ipswich.
- Chapter 389 An Act to permit certain employees of the State Department of Public Works to take a promotional competitive examination for promotion to Junior Civil Engineer Grade III.
- Chapter 403 An Act to provide a pension for certain State employees.
- Chapter 416 An Act relative to signs and signals at ways intersecting through ways, and relative to stopping at such ways.
- Chapter 431 An Act authorizing the Department of Public Works to convey a certain parcel of land to the town of Hancock.
- Chapter 448 An Act to authorize the Department of Public Works to take or acquire easements to provide access for land abutting a limited access highway.
- Chapter 449 An Act authorizing the Department of Public Works to grant certain easements within State highway locations.
- Chapter 478 An Act repealing the provisions of law designating the State highway between Turners Falls and Greenfield as the DeWolf-Gariepy Memorial Highway.

- Chapter 482 An Act relative to the care, control and maintenance of certain public highway bridges.
- Chapter 506 An Act designating the new bridge in the town of Blacksonte as the Peter F. Fitzgerald Bridge.
- Chapter 512 An Act authorizing and directing the Department of Public Works to construct a sewer and settling basin at the State Fish Pier in Gloucester Harbor.
- Chapter 516 An Act relative to the reconstruction of Groveland Bridge, so called, over the Merrimack River between the city of Haverhill and the Town of Groveland.
- Chapter 552 An Act increasing annuities to dependents of certain public employees killed or dying from injuries received or hazards undergone in the performance of duty.
- Chapter 564 An Act authorizing the further regulation of the speed of motor vehicles upon ways within the Commonwealth.
- Chapter 652 An Act relating to the construction by the Department of Public Works of certain recreation areas in the East Boston district of the city of Boston and authorizing said city to borrow money in connection therewith.

RESOLVES

- Chapter 24 Resolve in favor of Emma A. and Alfred F. Iwanowicz of Lynnfield.
- Chapter 30 Resolve in favor of Emma R. Smith of Dartmouth.
- Chapter 59 Resolve providing for an investigation relative to the protection of property along the waterfront in the Dennisport section of the town of Dennis.
- Chapter 62 Resolve relative to certain harbor and waterway improvements.
- Chapter 65 Resolve reviving and continuing the special commission established to make an investigation relative to authorizing the State Department of Public Works to improve Fairhaven Harbor.
- Chapter 80 Resolve in favor of John Walter Cantwell of Somerville.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:

Special report of the Department of Public Works and the Attorney-General relative to public access to Little Alum Pond in the Town of Brimfield (H 141 of 1948).

Special report of the Department of Public Works and the Attorney-General relative to public access to Alum Pond the Lead Mine Pond in the Town of Sturbridge (H 142 of 1948).

Report of the special joint commission providing for an investigation relative to the construction of flood control protection along a portion of the Ware River. Report made by the Department of Public Works and the Metropolitan District Commissioner under Chapter 37, Resolves of 1947 (H 147 of 1948).

Report of the special committee to investigate relative to authorizing the State Department of Public Works to improve Fairhaven Harbor. Report made November 24, 1947 under Chapter 54, Resolves of 1947 (H 149 of 1948).

Progress report of projects, including the cost thereof, in process of construction during the then current fiscal year, and an estimate of the amount of money required for the purposes of section one of the then succeeding fiscal year. Report made January 7, 1948, by the Department of Public Works in accordance with provisions of Section 6 of Chapter 689, Acts of 1945 (H 1744 of 1948).

1948

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on December 3, 1947, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:

RECOMMENDATIONS

The Department is recommending legislation this year for the following purposes:

1. TO REGULATE THE EMPLOYMENT OF TEMPORARY LABORERS, CHAUFFEURS AND WORKMEN BY THE STATE DEPARTMENT OF PUBLIC WORKS.

The purpose of this act is to exempt from the Civil Service Rules and Regulations men employed in the winter months on snow removal work and those who are employed during emergencies, such as hurricanes and other disasters. Employees could be obtained on an emergency status under civil service, but the limited number of days which they would be allowed to work would handicap the Department to such an extent that the work would be adversely affected. The men on snow removal work are obtained on short notice, usually in the centers of population or along the state highway routes, and work only a few hours or at most a few days, and then do not work again until there is another snow-storm. As emergency employees, they probably would not be available after the middle of the season, as they would have worked their allotted time. If temporary employees are used, it is difficult to get a sufficient number who will agree to work only when required on account of snow or other emergencies. Even those who do agree are reluctant to report because of the hour at which they are called. Both of these types of employees at the expiration of the period revert to their original status on the civil service list and receive no benefits from civil service. To secure employees from the civil service list during such emergencies requires a great deal of paper work in connection with their employment, which seems to be

unnecessary. The passage of the accompanying bill is therefore recommended.

2. TO REGULATE THE DUMPING OF MATERIAL WITHIN THE LIMITS OF A STATE HIGHWAY.

There appears to be no provision in the law which makes it illegal to dump rubbish of one kind or another on the roadsides of the state highways. There have been many instances of such dumping, which not only mars the appearance of the roadside but imposes a burden upon the maintenance forces to remove the debris. The passage of the accompanying bill to amend section 21 of chapter 81 of the General Laws is therefore recommended.

3. TO AUTHORIZE THE DEPARTMENT OF PUBLIC WORKS TO MAKE PROVISIONS FOR THE CONTINUED DEVELOPMENT OF THE GENERAL EDWARD LAWRENCE LOGAN AIRPORT AT EAST BOSTON AND FOR OTHER PURPOSES.

In June, 1947, the Department concluded that the cost of proposed work at the General Edward Lawrence Logan Airport at East Boston for the current year would be \$26,353,875, from which the \$12,000,000 appropriated should be deducted, leaving \$14,353,875. To this should be added the \$1,300 for the playground construction, leaving the amount required for the next fiscal year, \$15,653,875. Inasmuch as some of the costs cannot be determined at this time, it is recommended that the sum of \$15,000,000 be provided.

4. TO AUTHORIZE THE ALCOHOLIC BEVERAGES CONTROL COMMISSION TO ISSUE LICENSES FOR THE SALE OF ALCOHOLIC BEVERAGES TO CONCESSIONAIRES AT ANY STATE-OWNED AIRPORT.

The Department believes that any person, firm or corporation who receives from the officials in charge of any state-owned airport a concession to operate a restau-

rant, club, package store or tavern, should be licensed to sell alcoholic beverages in accordance with the terms of such concession and while it is in effect. As state-owned airports are outside the jurisdiction of the towns in which they are situated, it is recommended that such licenses be issued by the Alcoholic Beverages Control Commission, as provided in the attached draft of a bill.

5. TO PROVIDE FOR CHANGE IN REQUIREMENT OF SIGNS AND SIGNALS AT WAYS INTERSECTING THROUGH WAYS AND TO PROVIDE FURTHER FOR REVISION OF STOPPING REQUIREMENTS AT SUCH WAYS.

Under section 9 of chapter 89 of the General Laws it is provided that a through way shall not become effective at a point of intersection unless "signs and signals" are erected "at or near such point." Compliance with this requirement is impracticable, and it is a fair inference that dual means of control such as specified was never really intended; and, to clarify the situation, it is recommended that the word "and" be stricken from the phrase "signs and signals" and the word "or" substituted therefor, thereby definitely enabling the Department to erect either sign or signal, as need required, and to approve the actions of municipalities in this regard.

This section likewise provides that every vehicle shall be brought to a full stop immediately before entering the limits of a through way. Strict observance requires that with three vehicles in line, the second vehicle has to make a second stop and the third vehicle a third stop just prior to entering. This could be overcome by requiring only a single stop for the first three vehicles in line in any group. This would have the advantage of facilitating traffic, of being in agreement with similar provisions in respect to isolated stop signs and of encouraging greater obedience to the law.

The passage of the accompanying bill to further amend section 9 of chapter 89 to include these suggested changes is therefore recommended.

6. TO PROVIDE FOR A CHANGE IN OPERATING REQUIREMENTS UPON ENTERING AND TURNING IN AN INTERSECTION.

Included in the provisions of section 14 of chapter 90 of the General Laws is one which requires that a "person . . . upon approaching any junction of . . . way with an intersecting way before turning into the same shall . . . keep to the right of the intersection of the center lines of both ways or extensions thereof, when turning to the right, and shall pass to the right of the intersections of the center lines of said ways or extensions thereof before turning to the left."

The movements required by this section cannot be accomplished at most intersections. Even pleasure vehicles cannot comply at intersections of narrow streets, and only at extraordinarily wide intersections can large trucks conform with the law. A change in the section is recommended so that compliance would be based on a movement commensurate with the turning characteristics of the vehicle.

The passage of the accompanying bill to amend section 14 of chapter 90 of the General Laws is therefore recommended.

7. AN ACT RELATING TO THE SPEED OF MOTOR VEHICLES AND THE OPERATION THEREOF ON STATE HIGHWAYS.

The purpose of this bill is to enable the Department to control the speed of vehicles on state highways and to ease the statutory provisions which now make special control on municipal ways by towns impracticable. At the present time the requirements of section 18 of chapter 90 are such that on any controlled way signs must be erected at every point where such a controlled way is intersected by another way. The signs would of necessity have to be reflectorized and the cost of each erected would be in the neighborhood of twenty-five or thirty dollars.

It is not the intention of the Department to post state

highways in a wholesale manner but to exercise control on approaches to hazardous points where necessary.

At least 150 cities and towns have already posted miles-per-hour signs on their highways. It is the opinion of the Department that these signs should be made legal, but compliance with requirements of existing law makes such impossible.

The passage of the accompanying bill to amend section 18 of chapter 90 of the General Laws is therefore recommended.

8. AN ACT RELATING TO THE DRIVING OF VEHICLES ON
WAYS WHERE THE VIEW IS OBSTRUCTED.

Recent surveys indicate that one important factor which may be used in helping to reduce accidents on highways is an increase in the minimum clear sight distance which the driver of a vehicle must have before he may pass another vehicle proceeding in the same direction. Most states have already enacted legislation increasing this minimum sight distance for passing. The passage of the accompanying bill to amend section 4 of chapter 89 of the General Laws by increasing the minimum clear sight distance from one hundred yards to two hundred yards is therefore recommended.

9. AN ACT TO AUTHORIZE THE DEPARTMENT OF PUBLIC
WORKS TO TAKE OR ACQUIRE EASEMENTS TO PRO-
VIDE ACCESS FOR LAND ABUTTING A LIMITED AC-
CESS HIGHWAY.

The purpose of a limited access highway is to insure uninterrupted travel on the highway, and, in laying out such limited access highways and making takings therefor, remaining land of the property owner in some instances may be left without access to any highway. The Department believes it should be empowered to provide access to this land over adjacent private property in order to make it available for use, thus mitigating land damages and benefiting both the property owner and the Common-

wealth. The passage of the accompanying bill to amend section 7A of chapter 81 of the General Laws is therefore recommended.

10. AN ACT TO AUTHORIZE THE DEPARTMENT OF PUBLIC WORKS TO GRANT CERTAIN EASEMENTS WITHIN THE STATE HIGHWAY LOCATION.

At the present time the Department has no authority to grant easements or any other rights within the state highway location, and, in cases where the takings in fee include underground structures which do not interfere with the construction of the highway, it would be advantageous to the Department to have the right to grant easements to permit the continued use of these structures rather than to pay damages to eliminate them. The passage of the accompanying bill to amend section 7 of chapter 81 of the General Laws is therefore recommended.

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF PUBLIC WORKS, HIGHWAY DIVISION

STATEMENT OF EXPENDITURES, FOR YEAR ENDING JUNE 30, 1948

	<u>Amount</u> <u>Appropriated</u>	<u>Amount</u> <u>Allotted</u>	<u>Expenditures</u> <u>for 12 Months</u> <u>to Date</u>
<u>Allocation Title</u>			
02 Highways Eng. & Administration			
Highways Eng. & Adm. Overhead			
31 Personal Services	1,033,980.00	1,033,980.00	1,025,555.92
61 Equip. Rental & Stores Mat.	144,520.00	144,520.00	142,558.63
01 Other Expense	122,550.00	122,550.00	99,862.97
	<u>1,301,050.00</u>	<u>1,301,050.00</u>	<u>1,267,977.52</u>
Services to Outside Agencies			
33 Personal Services	37,839.00	37,839.00	35,952.90
63 Equip. Rental & Stores Mat.	7,010.00	7,010.00	5,942.92
03 Other Expense	2,120.00	2,120.00	1,131.36
	<u>46,969.00</u>	<u>46,969.00</u>	<u>43,027.18</u>
Topographical Survey			
04 Other Expense	<u>50,000.00</u>	<u>50,000.00</u>	<u>3,500.00</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
02	Highways Eng. & Adm. (cont'd)			
	Geodetic Survey			
35	Personal Services	17,360.00	17,360.00	8,643.23
65	Equip. Rental & Stores Mat.	2,430.00	2,430.00	545.41
05	Other Expense	4,200.00	4,200.00	2,141.23
		<u>23,990.00</u>	<u>23,990.00</u>	<u>11,329.87</u>
	Highway Regulatory Permits & Insp.			
36	Personal Services	33,676.00	33,676.00	30,035.16
66	Equip. Rental & Stores Mat.	5,170.00	5,170.00	4,064.49
06	Other Expense	1,550.00	1,550.00	368.39
		<u>40,396.00</u>	<u>40,396.00</u>	<u>34,468.04</u>
	Research and Planning			
37	Personal Services	96,087.00	96,087.00	89,434.93
67	Equip. Rental & Stores Mat.	6,640.00	6,640.00	5,857.39
07	Other Expense	125,680.00	125,680.00	122,272.69
		<u>228,407.00</u>	<u>228,407.00</u>	<u>217,565.01</u>
	Eng. Plans & Surveys for Future Projects			
38	Personal Services	474,675.00	474,675.00	462,619.54
68	Equip. Rental & Stores Mat.	24,220.00	24,220.00	17,367.69
08	Other Expense	58,560.00	58,560.00	44,293.97
		<u>557,455.00</u>	<u>557,455.00</u>	<u>524,281.20</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
02	Highways Eng. & Adm.(cont'd)			
	Eng. Primary Roads Const.F.A.			
40	Personal Services	215,504.00	215,504.00	204,732.58
70	Equip. Rental & Stores Mat.	14,140.00	14,140.00	13,233.49
10	Other Expense	48,920.00	48,920.00	38,183.20
		<u>278,564.00</u>	<u>278,564.00</u>	<u>256,149.27</u>
	Eng. Secondary Roads Const. F.A.			
42	Personal Services	36,482.00	36,482.00	34,196.32
72	Equip. Rental & Stores Mat.	4,790.00	4,790.00	4,051.43
12	Other Expense	8,610.00	8,610.00	4,910.44
		<u>49,882.00</u>	<u>49,882.00</u>	<u>43,158.19</u>
	Eng. Grade Crossing Elim. F.A.			
44	Personal Services	21,201.00	21,201.00	19,551.55
74	Equip. Rental & Stores Mat.	2,590.00	2,590.00	1,265.10
14	Other Expense	3,940.00	3,940.00	2,510.19
		<u>27,731.00</u>	<u>27,731.00</u>	<u>23,326.84</u>
	Eng. Const. & Imp. Thru Routes			
46	Personal Services	140,710.00	140,710.00	128,822.43
76	Equip. Rental & Stores Mat.	13,490.00	13,490.00	8,717.88
16	Other Expense	28,840.00	28,840.00	23,944.61
		<u>183,040.00</u>	<u>183,040.00</u>	<u>161,484.92</u>
	Eng. Chapter 90 Projects			
47	Personal Services	278,732.00	278,732.00	273,414.77
77	Equip. Rental & Stores Mat.	25,470.00	25,470.00	24,362.94
17	Other Expense	39,945.00	39,945.00	34,367.29
		<u>344,147.00</u>	<u>344,147.00</u>	<u>332,145.00</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
02	Highways Eng. & Adm. (cont'd)			
	Eng. Chapter 81 Projects			
48	Personal Services	40,565.00	40,565.00	37,787.19
78	Equip. Rental & Stores Mat.	10,220.00	10,220.00	8,021.39
18	Other Expense	4,445.00	4,445.00	247.63
		<u>55,230.00</u>	<u>55,230.00</u>	<u>46,056.21</u>
	Eng. Strategic Roads F.A.			
50	Personal Services	1,000.00	1,000.00	17.16
80	Equip. Rental & Stores Mat.	1,000.00	1,000.00	3.76
20	Other Expense	1,000.00	1,000.00	-
		<u>3,000.00</u>	<u>3,000.00</u>	<u>20.92</u>
	Eng. Advance Eng. F. A.			
52	Personal Services	51,454.00	51,454.00	29,494.53
82	Equip. Rental & Stores Mat.	3,300.00	3,300.00	1,192.11
22	Other Expense	7,960.00	7,960.00	1,530.71
		<u>62,714.00</u>	<u>62,714.00</u>	<u>32,217.35</u>
	Eng. Special Projects			
53	Personal Services	5,000.00	5,000.00	2,680.32
83	Equip. Rental & Stores Mat.	1,000.00	1,000.00	341.32
8	Other Expense	4,000.00	4,000.00	5.79
		<u>10,000.00</u>	<u>10,000.00</u>	<u>3,027.43</u>
	Eng. Contract Maint. Projects			
54	Personal Services	15,837.00	15,837.00	13,239.71
84	Equip. Rental & Stores Mat.	2,930.00	2,930.00	1,087.92
24	Other Expense	7,050.00	7,050.00	2,030.04
		<u>25,817.00</u>	<u>25,817.00</u>	<u>16,357.67</u>
	Eng. Post War Projects			
55	Personal Services	117,109.00	117,109.00	63,853.18
85	Equip. Rental & Stores Mat.	9,970.00	9,970.00	1,082.83
25	Other Expense	12,110.00	12,110.00	3,509.50
		<u>139,189.00</u>	<u>139,189.00</u>	<u>68,445.51</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
02	Highways Eng. & Adm.(cont'd)			
	Eng. Urban Roads Const. F.A.			
56	Personal Services	245,025.00	245,025.00	129,329.21
86	Equip. Rental & Stores Mat.	34,996.00	34,996.00	9,304.27
26	Other Expense	66,650.00	66,650.00	13,531.64
		<u>346,671.00</u>	<u>346,671.00</u>	<u>152,165.12</u>
	Eng. Reimb. Serv. Other Depts.etc.			
57	Personal Services	2,000.00	2,000.00	-
87	Equip. Rental & Stores Mat.	300.00	300.00	-
27	Other Expense	400.00	400.00	-
		<u>2,700.00</u>	<u>2,700.00</u>	<u>-</u>
	Department Secretary			
58	Personal Services	39,269.00	39,269.00	37,038.00
88	Equip. Rental & Stores Mat.	2,110.00	2,110.00	1,435.74
28	Other Expense	3,930.00	3,930.00	2,634.30
		<u>45,309.00</u>	<u>45,309.00</u>	<u>41,108.04</u>
	Department Business Agent			
59	Personal Services	157,224.00	157,224.00	155,069.06
89	Equip. Rental & Stores Mat.	12,650.00	12,650.00	11,285.85
29	Other Expense	32,810.00	32,810.00	24,390.51
		<u>202,684.00</u>	<u>202,684.00</u>	<u>190,745.42</u>
	Vacation, Sick Leave & Other Compensated Absence			
99	Personal Services	475,055.00	475,055.00	396,205.22
	Total	<u>4,500,000.00</u>	<u>4,500,000.00</u>	<u>3,864,761.93</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
04	Maint. & Oper. of Highways			
	General Maintenance			
31	Personal Services	923,762.00	923,762.00	902,425.70
61	Equip. Rental & Stores Mat.	652,535.00	652,535.00	646,582.24
01	Other Expense	333,703.00	333,703.00	229,375.87
		<u>1,910,000.00</u>	<u>1,910,000.00</u>	<u>1,778,383.81</u>
	Traffic Services			
32	Personal Services	211,997.00	211,997.00	199,120.53
62	Equip. Rental & Stores Mat.	246,233.00	246,233.00	243,024.04
02	Other Expense	52,770.00	52,770.00	42,785.35
		<u>511,000.00</u>	<u>511,000.00</u>	<u>484,929.92</u>
	Bridge Maint. & Operation			
33	Personal Services	280,632.00	280,632.00	272,888.70
63	Equip. Rental & Stores Mat.	45,248.00	45,248.00	41,449.20
03	Other Expense	84,120.00	84,120.00	58,160.30
		<u>410,000.00</u>	<u>410,000.00</u>	<u>372,498.20</u>
	State Hwy. Snow & Ice Control			
34	Personal Services	1,224,224.00	1,224,224.00	1,145,472.87
64	Equip. Rental & Stores Mat.	922,706.00	922,706.00	897,591.80
04	Other Expense	1,033,070.00	1,033,070.00	915,649.85
		<u>3,180,000.00</u>	<u>3,180,000.00</u>	<u>2,958,714.52</u>
	Town Road Snow & Ice Control			
35	Personal Services	15,007.00	15,007.00	1,557.56
65	Equip. Rental & Stores Mat.	10,393.00	10,393.00	3,139.72
05	Other Expense	44,600.00	44,600.00	42,460.75
		<u>70,000.00</u>	<u>70,000.00</u>	<u>47,158.03</u>

		Amount <u>Appropriated</u>	Amount <u>Allotted</u>	Expenditures for 12 Months to Date
04.	<u>Allocation Title</u>			
	Maint. & Oper. of Hwys.(cont'd)			
	Contract Maint. Projects			
36	Personal Services	4,000.00	4,000.00	-
66	Equip. Rental & Stores Mat.	-	-	775.81**
06	Other Expense	381,000.00	381,000.00	119,769.26
		385,000.00	385,000.00	118,993.45
	Reimb. Services Other Depts.			
38	Personal Services	20,119.00	20,119.00	12,811.20
68	Equip. Rental & Stores Mat.	24,550.00	24,550.00	18,347.39
08	Other Expense	13,331.00	13,331.00	8,327.80
		58,000.00	58,000.00	39,486.39
	Building Small Structures			
39	Personal Services	14,245.00	14,245.00	9,072.55
69	Equip. Rental & Stores Mat.	8,620.00	8,620.00	4,317.07
09	Other Expense	23,135.00	23,135.00	15,060.65
		46,000.00	46,000.00	28,450.27
	Moving Public Works Garage			
58	Personal Services	8,000.00	8,000.00	7,802.83
88	Equip. Rental & Stores Mat.	2,000.00	2,000.00	1,156.95
28	Other Expense	25,000.00	25,000.00	7,175.99
		35,000.00	35,000.00	16,135.77
	Increase in Stores Inventory			
89	Equip. Rental & Stores Mat.	60,000.00	60,000.00	58,100.92
	Vacation, Sick Leave etc.			
99	Personal Services	385,000.00	385,000.00	288,027.92
	Total	7,050,000.00	7,050,000.00	6,190,879.20

** Credit

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
10	Federal Aid Hwy. Projects			
	Primary Roads-Land Damages			
01	Other Expense	890,548.98	890,548.98	75,034.08
	Primary Roads-Proj. Payments			
62	Equip. Rental & Stores Mat.	45.88	45.88	1.22
02	Other Expense	8,236,901.38	8,236,901.38	2,948,979.96
		8,236,947.26	8,236,947.26	2,948,981.18
	Primary Roads-Force Acct. Work			
33	Personal Services	7,191.40	7,191.40	6,893.75
63	Equip. Rental & Stores Mat.	22,021.36	22,021.36	17,260.85
03	Other Expense	32,489.75	32,489.75	1,060.73
		61,702.51	61,702.51	25,215.33
	Secondary Roads-Land Damages			
04	Other Expense	235,858.84	235,858.84	72,402.29
	Secondary Roads-Proj. Payments			
65	Equip. Rental & Stores Mat.	130.85	130.85	130.85
05	Other Expense	2,588,728.25	2,588,728.25	504,002.46
		2,588,859.10	2,588,859.10	504,133.31
	Secondary Roads-Force Acct. Work			
36	Personal Services	2,400.00	2,400.00	106.26
66	Equip. Rental & Stores Mat.	600.00	600.00	476.87
06	Other Expense	5,000.00	5,000.00	-
		8,000.00	8,000.00	583.13

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
10	Fed. Aid Hwy. Projects(cont'd)			
	Grade Crossing Elim.-Land Damages			
07	Other Expense	90,305.08	90,305.08	23,087.39
	Grade Cross. Elim.-Proj. Payments			
38	Personal Services	3,000.00	3,000.00	-
68	Equip. Rental & Stores Mat.	6,000.00	6,000.00	9.77
08	Other Expense	<u>1,425,957.72</u>	<u>1,425,957.72</u>	<u>296,659.79</u>
		1,434,957.72	1,434,957.72	296,669.56
	Grade Cross. Elim.-Force Acct. Work			
39	Personal Services	1,000.00	1,000.00	234.97
69	Equip. Rental & Stores Mat.	2,000.00	2,000.00	420.16
09	Other Expense *	<u>2,340.00</u>	<u>2,340.00</u>	-
		5,340.00	5,340.00	655.13
	Access Roads-Land Damages			
10	Other Expenses	10,800.00	10,800.00	1,100.00
	Access Roads-Force Acct. Work			
42	Personal Services	611.75	611.75	535.39
72	Equip. Rental & Stores Mat.	1,400.00	1,400.00	1,248.06
12	Other Expense	<u>200.00</u>	<u>200.00</u>	<u>87.88</u>
		2,211.75	2,211.75	1,871.33
	Urban Roads Const.-Land Damages			
16	Other Expense	2,237,577.00	2,237,577.00	130,216.65
	Urban Rds. Const.-Proj. Payments			
77	Equip. Rental & Stores Mat.	100.00	100.00	39.06
17	Other Expense	<u>9,026,736.61</u>	<u>9,026,736.61</u>	<u>1,547,462.46</u>
		9,026,836.61	9,026,836.61	1,547,501.52

		Amount <u>Appropriated</u>	Amount <u>Allotted</u>	Expenditures for 12 Months <u>to Date</u>
10	<u>Allocation Title</u>			
	Fed. Aid Hwy. Proj.(cont'd)			
	Urban Roads Const.-Force Acct.Work			
48	Personal Services	6,500.00	6,500.00	1,299.20
78	Equip. Rental & Stores Mat.	10,000.00	10,000.00	2,346.76
18	Other Expense	7,290.00	7,290.00	5.63
		<u>23,790.00</u>	<u>23,790.00</u>	<u>3,651.59</u>
	Secondary Roads-Land Damages 100% Reimb.			
19	Other Expense	2,581.00	2,581.00	-
	Strategic Roads-Land Damages			
22	Other Expense	4,342.00	4,342.00	3,250.18
	Strategic Roads-Force Acct. Work			
54	Personal Services	1,000.00	1,000.00	-
84	Equip. Rental & Stores Mat.	2,000.00	2,000.00	865.46
24	Other Expense	3,100.00	3,100.00	-
		<u>6,100.00</u>	<u>6,100.00</u>	<u>865.46</u>
	Primary Roads-Land Damages 100% Reimb.			
25	Other Expense	2,340.00	2,340.00	-
	Total	<u>24,869,097.85</u>	<u>24,869,097.85</u>	<u>5,635,218.13</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
12	Const. & Imp. of Thru Routes			
	Land Damages			
01	Other Expense	65,000.00	65,000.00	8,396.10
	Project Payments			
32	Personal Services	26.82	26.82	26.82
62	Equip. Rental & Stores Mat.	93.20	93.20	93.20
02	Other Expense	2,609,879.98	2,609,879.98	566,710.39
		<u>2,610,000.00</u>	<u>2,610,000.00</u>	<u>566,830.41</u>
	Force Account Work			
33	Personal Services	86,900.00	86,900.00	52,485.17
63	Equip. Rental & Stores Mat.	51,350.00	51,350.00	46,808.19
03	Other Expense	186,750.00	186,750.00	32,344.45
		<u>325,000.00</u>	<u>325,000.00</u>	<u>131,637.81</u>
	Total	<u>3,000,000.00</u>	<u>3,000,000.00</u>	<u>706,864.32</u>
17	Const. & Repair Town & Co. Ways (Chap. 90)			
	Project Payments			
62	Equip. Rental & Stores Mat.	52.10	52.10	-
02	Other Expense	6,517,280.04	6,517,280.04	2,663,930.81
		<u>6,517,332.14</u>	<u>6,517,332.14</u>	<u>2,663,930.81</u>
	Force Account Work			
33	Personal Services	1,000.00	1,000.00	533.72
63	Equip. Rental & Stores Mat.	1,078.21	1,078.21	1,023.93
03	Other Expense	1,000.00	1,000.00	17.06
		<u>3,078.21</u>	<u>3,078.21</u>	<u>1,574.71</u>
	Total	<u>6,520,410.35</u>	<u>6,520,410.35</u>	<u>2,665,505.52</u>
18	Repair & Imp. of Pub. Ways (Ch. 81)			
	Project Payments			
02	Other Expense	2,076,000.00	2,076,000.00	161,710.79

		<u>Amount</u> <u>Appropriated</u>	<u>Amount</u> <u>Allotted</u>	<u>Expenditures</u> <u>for 12 Months</u> <u>to Date</u>
30	<u>Allocation Title</u> Special Projects			
	State Highways-Hurricane & Flood Land Damages			
07	Other Expense	200.00	-	-
	State Highways-Hurricane & Flood Project Payments			
08	Other Expense	1,582.82	-	-
	Town & County Ways-Hurricane & Flood-Project Payments			
14	Other Expense	501.94	-	-
	Public Works Program, Grade Crossing Elim.-Land Damages			
16	Other Expense	276.00	-	-
	Public Works Program, Grade Crossing Elim.-Proj. Payments			
17	Other Expense	2,681.26	-	-
	Total	5,242.02	-	-
	Oper. & Maint. of Bldg., (2900)			
80 31	Public Works Bldg., Salaries	127,070.00	127,070.00	122,869.95
81 31	" " " Police Serv.	42,040.00	42,040.00	41,201.33
82 01	" " " Expenses	81,461.00	81,461.00	65,693.84
90	" " " New Lights			
31	Personal Services	18.26	18.26	18.26
01	Other Expense	21,061.93	21,061.93	21,050.81
		21,080.19	21,080.19	21,069.07
91	Public Works Bldg., Roof Reprs.			
31	Personal Services	100.00	100.00	24.72
01	Other Expense	14,900.00	12,585.00	11,805.00
		15,000.00	12,685.00	11,829.72
	Total	286,651.19	284,336.19	262,663.91

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
56	Laboratory Equipment			
01	Other Expense	5,333.86	5,333.36	4,213.91
31	Traffic Study-Metropolitan Boston			
31	Personal Services	1,437.15	1,437.15	-
61	Equip. Rental & Stores Mat.	862.72	862.72	-
01	Other Expense	1,365.61	1,365.61	-
	Total	3,665.48	3,665.48	-
33	Reimb. Cities & Towns-Oper. Certain Bridges			
01	Other Expense	12,223.99	12,223.99	-
34	Reimb. City Boston-Tunnel Plans			
01	Other Expense	216,309.23	216,309.23	56,886.03
35	State Highway Resurfacing-Project Pay.			
02	Other Expense	900,000.00	100,000.00	-
	Force Account Work			
33	Personal Services	55,000.00	55,000.00	11,002.30
63	Equip. Rental & Stores Mat.	11,000.00	11,000.00	2,690.75
03	Other Expense	1,034,000.00	1,034,000.00	55,562.36
		1,100,000.00	1,100,000.00	69,255.41
	Total	2,000,000.00	1,200,000.00	69,255.41
	Total Hwy. Operating Expenditures	50,544,933.97	49,737,376.45	19,617,959.15

Note:

2900-10 Federal Aid Highway Projects

Inasmuch as this is a "continuing appropriation", the Comptroller has transferred all outstanding encumbrances to the 1949 Accounts. The total amount so transferred July 1, 1948 is as follows:

2900-10-01	Primary Roads Land Damages	Other Expense	\$320,890.88	
02	" " Project Payments	" "	2,145,580.21	
03	" " Force Account Work	" "	31,166.92	
04	Secondary Roads Land Damages	" "	157,287.95	
05	" " Project Payments	" "	1,215,294.98	
06	" " Force Account Work	" "	2,570.00	
07	Grade Crossing Elimination Land Damages	" "	18,194.58	
08	" " " Project Payments	" "	567,399.87	
09	" " " Force Account Work	" "	1,890.00	
10	Access Roads Land Damages	" "	9,587.79	
16	Urban Roads Construction Land Damages	" "	485,437.04	
17	" " " Project Payments	" "	2,557,541.72	
18	" " " Force Account Work	" "	5,526.00	
19	Secondary Roads Land Damages 100% Reimb.	" "	2,581.00	
22	Strategic Roads Land Damages	" "	1,108.00	
24	" " Force Account Work	" "	3,100.00	
25	Primary Roads Land Damages 100% Reimb.	" "	<u>2,340.00</u>	\$7,527,496.94

Encumbrances for East Boston-Express Highway (Low Bid \$5,357,770.50) and Beverly U 331 (7) (Low Bid \$1,309,811.55) not included in above.

Note:

2900-12 Construction and Improvement of Thru Routes

Inasmuch as this was made a "continuing appropriation" in the 1949 fiscal year, the Comptroller has transferred all encumbrances incurred in the 1948 fiscal year to the 1949 accounts. The total amount so transferred is as follows:

2900-12-01	Land Damages	Other Expense	28,138.00	
02	Project Payments	" "	1,769,952.81	
03	Force Account Work	" "	<u>116,916.74</u>	\$1,915,007.55

Note:

2900-17 Construction of Town and County Ways (chap. 90)

Inasmuch as this is a "continuing appropriation" the encumbrances have been transferred by the Comptroller to the 1949 Accounts. Encumbrances are not made until after the contracts are executed; therefore, although the account shows a large unencumbered balance, commitments have been made by the Board covering, approximately, the entire balance available.

Note:

2900-31 Traffic Study-Metropolitan Boston

Unexpended balance of \$3,665.48 may revert as there are no liabilities. "Special appropriation expired July 25, 1947.

Note:

2900-33 Reimbursement Cities and Towns Operation of Certain Bridges

Unexpended balance \$12,223.99 may revert as there are no liabilities. Appropriation expired June 30, 1947

Note:

2900-34 Tunnel Plans-Reimbursement City of Boston-Chapter 567 Acts of 1946

Special-expires June 30, 1948. Purchase Order for \$159,423.20 to cover contracts in force

Note:

2900-35 State Highway Resurfacing

This is a "special appropriation" which does not expire until May 18, 1950.

Note:

2900-56 Laboratory Equipment

This is a "special appropriation" which expired July 25, 1947. Purchase Order amount to \$534.17 should be reserved to cover liabilities. Balance \$585.28 may revert.

Note:

2900-91 Public Works Building-Roofing Repairs

This is a "special appropriation", will expire April 15, 1949.

Note:

2900-90 Public Works Building-New Lights

This is a "special appropriation", expires June 30, 1948. Unexpended balance of \$11.22 may revert as there are no liabilities.

Note:

8222-30-07 State Highway Hurricane and Flood-Land Damage-Liability of \$200.00

This amount has been awarded to the Norman M. Broga Estate, Chester, Mass. The heirs cannot be located at the present time.

Note:

8222-30-08 State Highway Hurricane and Flood Project Payments-unexpended balance \$1,582.82.

Note:

8222-30-14 Town and County Ways-Hurricane and Flood Project Payments-unexpended balance \$501.94

These balances should be retained on account of suit entered against the Commonwealth by L. M. Hersum on Contract 878. Authorization has previously been granted by the Legislature to use any unexpended balance of the above appropriations to cover any deficit which may occur on either of these accounts.

Note:

8305-30-16 Public Works Program-Grade Crossing Elimination Projects-Land Damages \$276.00

Unexpended balance may revert as there are no liabilities.

Note:

8305-30-17 Public Works Program-Grade Crossing Elimination Projects-Project Payments-unexpended balance \$2,681.26

Encumbrance D-58188 \$1,186.64 with Boston & Maine R.R. for work at Newbury.

" D-35558 1,473.96 with New York Central R.R. for work at Framingham.

This is a bond issue, balance does not revert.

Note:

2220-30-01 Bedford Airport, Acquisition Expenses, Land Damages, unexpended balance \$10,102.99. D.P.O. 35627 to cover.
The following land damages are pending:

<u>Name</u>	<u>Parcel</u>	<u>Remarks</u>
Frank J. McGovern, et al	8-14	Suit pending
Geo. L. Turnbull	41	\$50.00 awarded-title not clear
Carl F. N. Anderson	3	\$112.00 awarded-title not clear

		<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
<u>OPERATION AND MAINTENANCE OF AIRPORTS</u>					
<u>1948 Account-2230</u>					
02		Logan Airport Salaries			
31		Personal Services	257,548.00	257,548.00	226,280.86
03		Logan Airport-Expenses			
61		Equip. Rental & Stores Mat.	61,000.00	61,000.00	60,726.30
01		Other Expense	132,000.00	132,000.00	101,969.14
		Total	193,000.00	193,000.00	162,695.44
<u>Extraordinary Expense-04,01</u>					
81		Airport Operator's Council			
01		Other Expense	1,500.00	1,500.00	1,076.74
		Total General Revenue Expenditures	452,048.00	452,048.00	390,053.04
<u>1946 Liability-2202</u>					
15		Logan Airport			
21		Expenses	3,360.59	3,360.59	3,224.40
<u>Special Projects-2220</u>					
30		Bedford Airport Acquisition			
		Land Damages			
01		Other Expense	10,102.99	-	-

<u>Allocation Title</u>		<u>Amount</u>	<u>Amount</u>	<u>Expenditures</u>
		<u>Appropriated</u>	<u>Allotted</u>	<u>for 12 Months</u>
				<u>to Date</u>
<u>SUMMARY OF STORES & EQUIPMENT OPERATIONS</u>				
<u>CHARGES</u>				
50	Stores & Equipment Operation			
	Stores & Equipment Overhead			
31	Personal Services	-	-	261,116.19
61	Equip. Rental & Stores Mat.	-	-	63,399.66
01	Other Expense	-	-	64,446.96
		-	-	388,962.81
	Equipment Operation & Maintenance			
92	Depreciation Expense	-	-	227,437.02
32	Personal Services	-	-	146,291.21
62	Equip. Rental & Stores Mat.	-	-	556,238.83
02	Other Expense	-	-	430,560.42
		-	-	1,360,527.48
	Traffic Signs & Signals Mfg.			
33	Personal Services	-	-	12,872.59
63	Equip. Rental & Stores Mat.	-	-	59,759.91
03	Other Expense	-	-	19,927.02
		-	-	92,559.52
	Other Stock & Equipment Mfg.			
34	Personal Services	-	-	17,427.74
64	Equip. Rental & Stores Mat.	-	-	59,552.14
04	Other Expense	-	-	32,392.67
		-	-	109,372.55
	Nursery Operation & Maintenance			
35	Personal Services	-	-	3,726.70
65	Equip. Rental & Stores Mat.	-	-	676.16
05	Other Expense	-	-	11.14
		-	-	4,414.00

	<u>Allocation Title</u>	<u>Amount</u> <u>Appropriated</u>	<u>Amount</u> <u>Allotted</u>	<u>Expenditures</u> <u>for 12 Months</u> <u>to Date</u>
<u>SUMMARY OF STORES & EQUIPMENT OPERATIONS (cont'd)</u>				
50	Stores & Equipment Operation			
	Stores Purchases			
66	Equip. Rental & Stores Mat.	-	-	218,728.39
06	Other Expense	-	-	904,458.03
		-	-	1,123,186.42
	Reimbursable Services Other Div.			
37	Personal Services	-	-	84,678.13
67	Equip. Rental & Stores Mat.	-	-	22,138.46
07	Other Expense	-	-	8,177.63
		-	-	114,994.22
	Vacation, Sick Leave & Other Compensated Absence			
08	Personal Services	-	-	61,618.96
	Stores & Equip. Suspense Account			
39	Personal Services	-	-	500.00**
69	Equip. Rental & Stores Mat.	-	-	-
09	Other Expense	-	-	575.34**
		-	-	1,075.34**
	Total Stores & Equipment Expenditures	-	-	3,254,560.62

** Credit

<u>Allocation Title</u>		<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures for 12 Months to Date</u>
<u>CREDITS</u>				
59	Income, Liability & Suspense Acct.			
00	Stores & Equip. Overhead Distr.	-	-	398,977.38**
10	Equipment Rentals Credit	-	-	1,411,059.48**
	Plus Loss on Equipment Rentals	-	-	-
20	Traffic Signs & Signals Mfg. Cr.	-	-	101,244.80**
30	Other Stock & Equip. Mfg. Cr.	-	-	111,544.29**
40	Nursery Stores Issues Cr.	-	-	5,314.00**
50	Stores Issues Credit	-	-	1,119,565.58**
64 20	Plus Increase in Stores Inventory	-	-	-
59 60	Income Reimb. Services Other Div.	-	-	119,572.69**
70	Compensated Absence Distributed	-	-	62,118.96**
	Total Stores & Equip. Income	-	-	3,329,397.18**
55 00	Capital Outlay 1948	490,000.00	490,000.00	279,513.49
	" " 1947 Lia.	417,521.29	417,521.29	194,330.53
	" " 1946 Lia.	97,543.34	97,543.34	67,133.10
	Total	1,005,064.63	1,005,064.63	540,977.12

1948 Outstanding encumbrances transferred to 1949 Fiscal Year (\$ 210,413.24)

1946 " ")

1947 " ") to be grouped as Accounts Payable in 1949 Fiscal Year

DETAIL AND SUMMARY OF AMOUNT APPROPRIATED 1948 FISCAL YEAR

<u>Account No.</u>	<u>Account Name</u>	<u>1947 Appropriation Balance</u>	<u>1948 Appropriation</u>	<u>Transfers</u>	<u>Total</u>
2900-02	Highways Engineering & Administration	-	4,900,000.00	400,000.00 (1)cr.	4,500,000.00
2900-04	Maintenance & Operation of Highways	-	6,650,000.00	400,000.00 (2)	7,050,000.00
2900-10	Federal Aid Highway Projects	14,936,101.52	10,000,000.00	67,003.67 (3)cr.	24,869,097.85
2900-12	Construction & Improvement of Thru Routes	-	3,000,000.00	-	3,000,000.00
2900-17	Construction & Repair Town & County Ways (Chap. 90)	3,520,410.35	3,000,000.00	-	6,520,410.35
2900-18	Repair & Improvement of Public Ways (Chap. 81)	-	2,076,000.00	-	2,076,000.00
2900-31	Traffic Study Metropolitan Boston	3,665.48	-	-	3,665.48
2900-33	Reimbursement Cities and Towns "Operation of Certain Bridges"	12,223.99	-	-	12,223.99
2900-34	Reimbursement City of Boston Tunnel Plans	216,309.23	-	-	216,309.23
2900-35	State Highway Resurfacing	-	2,000,000.00	-	2,000,000.00
2900-56	Laboratory Equipment	5,333.86	-	-	5,333.86
2900-80	Public Works Building Salaries	127,070.00	-	-	127,070.00
2900-81	Public Works Building Police Services	42,040.00	-	-	42,040.00
2900-82	Public Works Building Expenses	81,461.00	-	-	81,461.00

<u>Account No.</u>	<u>Account Name</u>	<u>1947 Appropriation Balance</u>	<u>1948 Appropriation</u>	<u>Transfers</u>	<u>Total</u>
2900-90	Public Works Building New Lights	11,080.19	10,000.00	-	21,080.19
2900-91	Public Works Building Roof Repairs	15,000.00	-	-	15,000.00
8222-30	State Highway Hurricane & Flood				
07	Land Damages	200.00	-	-	200.00
08	Project Payments	1,582.82	-	-	1,582.82
	Town & County Ways Hurricane & Flood				
14	Project Payments	501.94	-	-	501.94
8305-30	Public Works Program, Grade Crossings				
16	Land Damages	276.00	-	-	276.00
17	Project Payments	2,681.26	-	-	2,681.26
	Total Highway Operating Appropriations	18,970,695.62	31,636,000.00	67,003.67(cr.)	50,544,933.97

- (1) Appropriation decrease. Transfer to 2900-04-Chapter 336 Acts of 1948
- (2) Appropriation increase. Transfer from 2900-02-Chapter 336 Acts of 1948
- (3) Appropriation decrease. This represents a difference between the authorization by the Governor and Council for wartime projects under the provisions of Section 3 Chapter 592, Acts of 1943, and final receipts from the Federal Government covering same.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the Acts of Congress and of the Massachusetts Legislature in respect to cooperation between the United States and the Commonwealth of Massachusetts in the construction of highways under the Federal Highway Act approved November 9, 1921 may be found in the annual reports of the Department of Public Works for the years 1920 to date. A detailed statement of the Federal Aid Allotments and Projects appears in the Department Report for the Fiscal Year 1933.

Additions and alterations for the Fiscal Years 1934 to 1939 inclusive and a summary of the Federal Aid Allotments appear in the Department Report for the Fiscal Year 1938. Additions and alterations for the following years appear in each annual report of the Department.

Following is a statement of Federal Aid Funds for Projects financed by Federal Aid for the period July 1, 1947 to June 30, 1948.

STATEMENT OF FEDERAL AID FUNDS July 1, 1947 to June 30, 1948

F. A. NO.		MILEAGE	ALLOTMENT	AMT. RECEIVED	BALANCE
S-6(3)	ADAMS	1.230	44,429.33	-----	44,429.33
FAS-S 276(2)	AYER-HARVARD-SHIRLEY	1.869	250,350.50	50,070.10	200,280.40
FAS-66(1)	BLACKSTONE	0.976	28,922.00	14,461.00	14,461.00
UI-241(5)	BOSTON (East Boston Express Hwy.)	0.699	2,850,945.00*	-----	2,850,945.00
F-328(1)	BOURNE-SANDWICH	3.607	152,859.00	53,500.65	99,358.35
FG-313(3)	BRAINTREE	0.397	283,895.27	-----	283,895.27
S-81(1)	CHARLTON-SOUTHBIDGE	4.126	325,101.66	65,211.00	259,890.66
SN-FAS 304(2)	EASTON-WEST BRIDGEWATER	1.637	141,691.00	-----	141,691.00
F-273(6)	FITCHBURG-LEOMINSTER	3.389	345,973.83	69,980.60	275,993.23
U-331(4)	GLOUCESTER	0.345	357,475.50	60,770.83	296,704.67
S-75(1)	HOLDEN	1.032	136,341.83	24,481.27	111,860.56
U-336(1)	KINGSTON	1.480	316,779.50	-----	316,779.50
U-272(17)	LYNNFIELD-WAKEFIELD	1.967	568,318.36	-----	568,318.36
F-235(10)	NEWTON	3.180	77,609.50	13,969.71	63,639.79
SNFAT-38(3)	PEABODY	0.711	402,971.24	43,096.32	359,874.92
F-8(2)	PETERSHAM	3.449	232,223.00	49,803.18	182,419.82
FAGM-25A(1)	PITTSFIELD	0.084	97,679.42	-----	97,679.42
U-336(2)	PLYMOUTH	1.780	316,439.33	-----	316,439.33
F-211(17)	SHREWSBURY-NORTHBOROUGH-WESTBOROUGH	2.237	66,050.00	33,025.00	33,025.00
F-211(19)	SHREWSBURY-NORTHBOROUGH-WESTBOROUGH	2.312	68,567.50	-----	68,567.50
SNFAP-256D(2)	SUTTON	2.083	551,431.92	348,403.18	203,028.74
FAS-13(4)	WALES	1.146	70,142.00	-----	70,142.00
SG-76(1)	WARE	0.342	224,643.38	22,464.33	202,179.05
F-36(7)	WELLFLEET	4.063	365,375.83	53,631.13	311,744.70
F-211(18)	WESTBOROUGH	1.647	69,702.50	11,152.40	58,550.10
TOTALS		45.788	\$8,345,918.40	\$914,020.70	\$7,431,897.70

* Allotment based on Preliminary Estimate

GENERAL STATEMENT

State Highways

For State Highways in 5 cities 23 towns 72.93 miles
9.53 miles of State Highway were laid out in 14 cities and
towns. State Highway alterations not involving mileage
changes were made in 22 cities and towns.

2 Grade Crossing Elimination decrees were signed in 2 cities
and towns.

City or town layouts were prepared for 7 cities and towns.
County layouts were prepared in 14 cities and towns.

The total State Highway mileage on July 1, 1948 was
1960.81 miles.

MILEAGE OF SURFACE (BY CLASS) FISCAL YEAR - JULY 1, 1947 to JUNE 30, 1948

TYPE OF SURFACE	CONST.	RECON.	CH. 690 SPEC. ACT	CH. 90	WIDEN	TOTALS			
						1947 - 48	1946 - 47	1945 - 46	1944 - 45
BITUMINOUS MACADAM	9.783	4.806	5.886	7.408	1.325	29.208	28.155	6.167	1.656
BITUMINOUS CONCRETE	2.693	7.378	0.073	2.732		12.876	39.048	6.585	3.480
PENOLITHIC							0.117		
GRAVEL				3.765	0.075	3.840	16.673	1.326	
GRAVEL WITH BIT. SURF. TREATMENT			0.379	8.026	0.559	8.964	17.212	2.206	1.982
REINF. CEMENT CONCRETE		8.698				8.698	13.045	0.023	0.014
SURFACE TREATMENT									
BITUMINOUS ROAD-MIX				37.770		37.770	14.604		2.597
SHEET ASPHALT				0.640		0.640	2.170		
JULY 1, 1947 TO JUNE 30, 1948	12.476	20.882	6.338	60.341	1.959	101.996			
JULY 1, 1946 TO JUNE 30, 1947	16.220	16.591		85.621	12.592		131.024		
JULY 1, 1945 TO JUNE 30, 1946	5.744	1.805	3.796	4.962				16.307	
JULY 1, 1944 TO JUNE 30, 1945	1.993	1.952	1.484	4.300					9.729

MILEAGE AND TYPE OF SURFACE COMPLETED BY DISTRICTS

1947 -- 1948

TOTAL BY DISTRICTS

D	CLASS	BIT. MAC.	BIT. CONC.	R.C.C.	BIT. TR GRAV.	SURF. TREAT.	BIT. R - M	PENO- LITHIC	SHEET ASPH.	GRAVEL	CONST.	RECON.	CHAP. 690	CHAP. 90	WIDEN.	1947-48	1946-47	1945-46	1944-45
1	CONST. RECON. CH. 690 CH. 90 WIDEN.	0.670 0.208	0.076 0.085	4.786							0.746	5.079				22.795	22.916	1.785	
			1.265		9.518					6.187				16.970					
2	CONST. RECON. CH. 690 CH. 90 WIDEN.	1.702 4.712	0.003 0.032								1.705		4.744	21.931	1.089	29.469	27.094		1.712
		7.408 0.530	2.732		8.026 0.559					3.765									
3	CONST. RECON. CH. 690 CH. 90 WIDEN.	1.704 0.657	0.275 0.041		0.379 1.020						1.704	0.275	1.077	19.847		22.903	15.525	5.308	2.465
		2.037	4.163				12.627												
4	CONST. RECON. CH. 690 CH. 90 WIDEN.	1.752 0.337	2.320								4.072		0.337	31.922	0.795	37.126	24.409	2.986	1.907
		3.123 0.795	20.701		5.024		3.074												
5	CONST. RECON. CH. 690 CH. 90 WIDEN.	0.294 4.515	0.294 2.494	1.672							0.588	8.681				18.563	15.975	3.796	0.440
		2.727	4.391		0.913		0.805			0.383 0.075				9.219	0.075				
6	CONST. RECON. CH. 690 CH. 90 WIDEN.	0.083 0.010	1.761 2.756	2.240								4.084	0.010	9.078		13.172	13.013		1.091
		0.722			0.843		3.933		0.640	0.184									
7	CONST. RECON. CH. 690 CH. 90 WIDEN.	3.661 0.170	2.763								3.661	2.763	0.170	27.734		34.328	12.092	2.432	2.114
			10.403				17.331												
1947 - 1948 FISC. YR. TOT.		37.817	56.555	8.698	26.282		37.770		0.640	10.594	12.476	20.882	6.338	136.701	1.959	178.356	131.024	16.307	9.729

ENGINEERING ADVICE

1945-1947 TOTALS	28.155	39.048	13.045	17.212		14.604	0.117	2.170	16.673	16.220	16.591	85.621		12.592	DIST.	CITIES & TOWNS		
															1	6	7	8
1945-1946 TOTALS	6.167	6.585	0.023	2.206					1.326	5.744	1.805	4.962	3.796		2	0	0	0
															3	0	0	0
1944-1945 TOTALS	1.656	3.480	0.014	1.982		2.597				1.993	0.861	5.391	1.484		4	0	0	0
															5	0	0	0
1943-1944 TOTALS	10.030	6.723	2.287	0.275	2.120	0.417				20.172		0.415	11.328		6	0	10	10
															7	0	0	0
															8	10	21	22

SURVEYS, PLANS AND ESTIMATES

During the year ending June 30, 1948, preliminary surveys, plans and estimates and final survey were made as follows:

For State Highway Construction

Preliminary surveys in 3 cities	5 towns	7.44 miles
" plans in 2 "	8 "	21.00 "
" estimates in 8 "	17 "	24.40 "
Final surveys in 3 "	15 "	15.58 "

For State Highway Reconstruction

Preliminary surveys in 1 city	12 towns	17.81 miles
" plans in 1 "	13 "	25.74 "
" estimates in 5 cities	22 "	34.62 "
Final surveys in 5 "	23 "	25.09 "

For Chapter 81

Preliminary surveys in 1 town	0.60 miles
" plans in 1 "	0.47 "
" estimates in 110 towns	5,130.00 "

For Chapter 90, Section 34 Construction

Preliminary surveys in 13 cities	65 towns	55.80 miles
" plans in 17 "	70 "	69.73 "
" estimates in 31 "	203 "	138.76 "
Final surveys in 18 "	72 "	49.53 "

For Chapter 90, Section 34 Maintenance

Preliminary estimates in 122 towns	627.82 miles
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For Chapter 690 Bridges, Acts of 1945

Preliminary Surveys in 1 city	0.15 miles	
" plans in 5 cities	1 town	0.84 "
" estimates in 5 "	4 towns	1.02 "
Final surveys in	6 towns	1.26 "

For State Highway Maintenance

Preliminary surveys in 2 cities	7 towns	2.60 miles
" plans in 1 city	6 "	1.85 "
" estimates in 1 "	20 "	22.14 miles
	(contract projects only)	
Final surveys in 1 city	2 towns	0.93 miles

For Grade Crossing Elimination

Preliminary studies in 2 cities	15 towns	10 miles
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Data for Annual Report
Year ending June 30, 1948

Reconnaissance Studies

For State Highways in 5 cities 23 towns 72.93 miles
9.53 miles of State Highway were laid out in 14 cities and towns.
State Highway alterations not involving mileage changes were made
in 22 cities and towns.

2 Grade Crossing Elimination decrees were signed in 2 cities and
towns.

City or town layouts were prepared for 7 cities and towns.

County layouts were prepared in 14 cities and towns.

The total State Highway mileage on July 1, 1948 was
1960.81 miles.

APPROVAL OF SPECIFICATIONS. The Department approved during the fiscal year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of streets in Methuen, Newburyport, Walpole, Medford, Fall River and Milton.

APPROVAL OF BRIDGE PLANS. The Department approved during the period under the provisions of Section 35, Chapter 85, General Laws, Ter. Ed., plans of the Fifth Street Viaduct in Fitchburg, Dwight Street over First Level Canal in Holyoke, Choate Bridge over Ipswich River in Ipswich and Rockdale Hills Bridge over Williams River in West Stockbridge.

PERMITS. During the fiscal year of 1948, 3317 permit applications were investigated and approved.

Eighteen hundred of the above total were applications for miscellaneous permits including driveways, sidewalks, grading public utilities (sewer, water and gas connections, electric power, light telephone and telegraph poles), trimming trees, etc.

The balance of permits investigated (1517) and approved were for movements over the State highways of loads exceeding the legal limits in weight, length or width including the movement of 286 buildings.

Approximately 50 permit applications were rejected due to either improper equipment or because they would cause undue inconvenience to the general public.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws, Ter. Ed.; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 295 cases; on the matter of laying out State highways in Charlton, Lynnfield, Wakefield, Reading, Ware, Deerfield, Whately, Boston, Plymouth, Kingston, Cambridge and Somerville; on the matter of the alteration of railroad bridges in Blackstone, Holden and Northampton; and on the matter of changing the name of Lake Street in the city of Cambridge.

Petitions were received and contracts signed during the year as follows:

	<u>Petitions</u>	<u>Contracts</u>
State Highways and Bridges	--	88
Work under section 34, chapter 90, General Laws	--	544
Work under section 26, chapter 81, General Laws	180	180
Miscellaneous		49
	<u>180</u>	<u>861</u>

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

July 1, 1947 - June 30, 1948

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities.

Westfield

July 22, 1947, contract made with Springfield Painting Company of Longmeadow, for cleaning and painting Great River Bridge over Westfield River. The proposal amounted to \$8,858.00. Work completed November 22, 1947. Expenditure during fiscal year, \$6,488.00.

Erving-Gill

August 5, 1947, contract made with B. S. Argeros and Company of Pennsylvania, for cleaning and painting French King Bridge on Auto Route 2 over Connecticut River. The proposal amounted to \$35,500.00. Work practically completed. Expenditure during fiscal year, \$27,640.00.

Buckland and Charlemont

August 19, 1947, contract made with National Painting Co. of Arlington, for cleaning and painting Scott's Bridge over Deerfield River. The proposal amounted to \$1,960.00. Work completed October 22, 1947. Expenditure during fiscal year, \$1,440.00.

Westfield

August 19, 1947, contract made with Worcester Painting Contractors, Inc. of Worcester, for cleaning and painting bridge on Auto Route 20 over Westfield River. The Proposal amounted to \$4,600.00. Work completed August 10, 1948. Expenditure during fiscal year, Nothing.

Springfield-West Springfield

August 19, 1947, contract made with E. T. O'Neill & Son of Holyoke, for making repairs to Memorial Bridge over the Connecticut River and the New York, New Haven and Hartford Railroad. The proposal amounted to \$6,741.00. Work completed December 11, 1947. Expenditure during fiscal year, \$11,243.64.

Williamstown

September 2, 1947, contract made with David M. Deans of Williamstown, for furnishing and placing riprap and miscellaneous work for about 275 feet along the easterly embankment of Green River on Green River Road. The proposal amounted to \$4,502.50. Work completed November 11, 1947. Expenditure during fiscal year, \$4,657.00.

Wellesley

September 16, 1947, contract made with M. DeMatteo Construction Co. of Quincy, for resurfacing about 10,526 feet of State highway on the Worcester Turnpike; the surface consisting of bituminous concrete pavement. The proposal amounted to \$96,502.20. Work completed June 28, 1948. Expenditure during fiscal year, \$81,946.25.

Wellesley

September 16, 1947, contract made with M. DeMatteo Construction Co. of Quincy, for resurfacing about 12,000 feet of State highway on the Worcester Turnpike; the surface consisting of bituminous concrete pavement. The proposal amounted to \$102,014.25. Work completed August 17, 1948. Expenditure during fiscal year, \$37,679.84.

Beverly-Salem

September 25, 1947, contract made with Wilson & Robinson, Inc. of Salem, for electrical work on the drawbridge on Auto Route 1A over Beverly Harbor. The proposal amounted to \$2,675.00. Work completed May 19, 1948. Expenditure during fiscal year, \$2,675.00.

Springfield-West Springfield

October 7, 1947, contract made with Lane Brothers Construction Co., Inc. of Boston, for making underwater inspection of abutments and piers of Memorial Bridge and North End Bridge over the Connecticut River. The proposal amounted to \$1,020.00. Work completed November 8, 1947. Expenditure during fiscal year, \$1,020.00.

Beverly-Salem-Quincy-Weymouth

October 7, 1947, contract made with C. Ray Norris & Son of Malden, for making underwater inspection of abutments and piers of Fore River Bridge on Auto Route 3A and Essex Bridge on Auto Route 1A. The proposal amounted to \$1,560.00. Work completed December 26, 1947. Expenditure during fiscal year, \$1,794.00.

Medford

October 14, 1947, contract made with Sylvester Bros. Contracting Corp. of Belmont, for resurfacing about 4,200 feet of State highway on Mystic Avenue; the surface consisting of bituminous concrete pavement. The proposal amounted to \$9,875.50. Work completed May 26, 1948. Expenditure during fiscal year, \$8,417.76.

Cohasset

October 14, 1947, contract made with Bradford Weston Inc. of Hingham, for reconstructing about 12,041 feet of State highway on North Main and South Main Streets; the surface consisting of bituminous concrete. The proposal amounted to \$21,273.50. Work completed April 15, 1948. Expenditure during fiscal year, \$20,470.84.

Peabody

October 21, 1947, contract made with B. A. Simeone, Inc. of Medford, for constructing a steel stringer bridge with concrete deck over Lowell Street and reconstructing about 3,756 feet of State highway on the Newburyport Turnpike; the surface of the bridge consisting of bituminous concrete pavement and the surface of the road consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$408,833.80. Work about three-eighths completed. Expenditure during fiscal year, \$151,700.55.

Holyoke-South Hadley

November 4, 1947, contract made with W. W. Wyman, Inc. of Shelburne Falls, for making repairs to a section of the westerly sidewalk of the Holyoke-South Hadley Bridge over the Connecticut River. The proposal amounted to \$7,253.88. Work completed April 23, 1948. Expenditure during fiscal year, \$7,829.21.

Sutton

November 4, 1947, contract made with M. A. Gammino Construction Company of Providence, Rhode Island, for constructing about 10,998 feet of State highway on the Worcester-Providence Highway; the surface consisting of reinforced concrete pavement, bituminous macadam and bituminous concrete pavement. The proposal amounted to \$316,424.00. Work about one-half completed. Expenditure during fiscal year, \$177,294.58.

Braintree

November 18, 1947, contract made with Charles Capone Construction Co., Inc. of Boston, for reconstructing about 9,062 feet of State highway on Washington and Hancock

Streets; the surface consisting of bituminous concrete pavement. The proposal amounted to \$217,034.30. Work about one-half completed. Expenditure during fiscal year, \$133,722.35.

Stoughton

November 18, 1947, contract made with A. A. Will Company of Milton, for constructing a drainage system on the State highway on Park Street. The proposal amounted to \$5,168.00. Work completed April 19, 1948. Expenditure during fiscal year, \$5,334.36.

Fitchburg-Leominster

November 19, 1947, contract made with Kelleher Corporation of Montague, for constructing a two-span steel stringer bridge and about 4.35 miles of State highway on Concord-Westminster Highway; the surface of the bridge consisting of bituminous concrete pavement and the surface of the road consisting of bituminous macadam. The proposal amounted to \$612,208.00. Work about one-third completed. Expenditure during fiscal year, \$179,117.48.

Holyoke

November 26, 1947, contract made with Webster & Webster of East Hartford, Connecticut, for constructing an iron pipe rail fence on the retaining wall in front of the Beaven-Kelly Home. The proposal amounted to \$1,796.45. Work completed April 8, 1948. Expenditure during fiscal year, \$1,796.45.

Charlton-Southbridge

December 30, 1947, contract made with Frank J. Shields, Incorporated of Southbridge, for constructing a steel stringer bridge, a concrete bridge, a concrete rigid frame bridge and a concrete box design bridge; for alternating a reinforced concrete slab bridge; for reconstructing about 23,291 feet of State highway; and for installing semi-actuated traffic control signals on Worcester Street and Southbridge and Sturbridge Roads; the surface of the bridges consisting of bituminous concrete pavement and the surface of the road consisting of bituminous macadam. The proposal amounted to \$583,618.75. Work about one-fourth completed. Expenditure during fiscal year, \$157,253.

Wellfleet

March 23, 1948, contract made with Frederick V. Lawrence, Inc. of Falmouth, for reconstructing about 21,453 feet of State highway on the Grand Army of the Republic Highway; the surface consisting of bituminous concrete pavement. The proposal amounted to \$596,417.75. Work about one-fourth completed. Expenditure during fiscal year, \$154,375.60.

Framingham

March 23, 1948, contract made with Municipal Signal & Supply Company of Boston, for furnishing and installing vehicle actuated traffic signals on the Worcester Turnpike, Route 9. The proposal amounted to \$10,559.19. Work completed July 9, 1948. Expenditure during fiscal year, Nothing.

Hingham

March 23, 1948, contract made with R. W. LeBaron, Inc. of Arlington, for furnishing and installing traffic control signals on Route 3A. The proposal amounted to \$5,445.00. Work completed June 21, 1948. Expenditure during fiscal year, Nothing.

Holden

March 23, 1948, contract made with Northern Construction Company, Inc. of Lawrence, for constructing a steel stringer bridge over the Asnebunskit Brook and reconstructing about 5,450 feet of State highway on Main Street; the surface of the bridge consisting of

bituminous concrete pavement and the surface of the road consisting of bituminous macadam. The proposal amounted to \$217,134.60. Work about one-third completed. Expenditure during fiscal year, \$71,364.47.

Westwood

March 23, 1948, contract made with R. W. LeBaron, Inc. of Arlington, for furnishing and installing traffic control signals on Route 128 at East Street. The proposal amounted to \$4,889.00. Work completed June 11, 1948. Expenditure during fiscal year, Nothing.

Blackstone

March 23, 1948, contract made with Sacco Construction Co. of Northbridge, for reconstructing about 5,156 feet of State highway on Main Street; the surface consisting of bituminous concrete pavement. The proposal amounted to \$48,746.00. Work completed July 13, 1948. Expenditure during fiscal year, \$40,078.87.

Newton

March 23, 1948, contract made with M. DeMatteo Construction Co. of Quincy, for resurfacing about 16,791 feet of State highway on Boylston street; the surface consisting of bituminous concrete pavement. The proposal amounted to \$136,108.75. Work just commenced. Expenditure during fiscal year, \$20,566.50.

Harwich

March 30, 1948, contract made with Continental Construction Company of Lynnfield, for installing a drainage system on Main Street. The proposal amounted to \$11,972.00. Work completed May 29, 1948. Expenditure during fiscal year, \$9,199.18.

Westborough

March 30, 1948, contract made with National Contractors Co., Inc. of Somerville, for resurfacing about 8,700 feet of State highway on the Worcester Turnpike; the surface consisting of bituminous concrete pavement. The proposal amounted to \$124,232.70. Work about two-fifths completed. Expenditure during fiscal year, \$48,775.70.

Bourne-Sandwich

March 30, 1948, contract made with The Henley-Lundgren Company of Shrewsbury, for constructing about 4 miles of State highway and reconstructing about 1,200 feet of State highway on Shawme Road and Route 6; the surface consisting of bituminous macadam. The proposal amounted to \$276,925.50. Work completed August 11, 1948. Expenditure during fiscal year, \$159,612.40.

Wales

March 30, 1948, contract made with Larose Construction Company of West Brookfield, for reconstructing about 6,051 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$108,404.50. Work just commenced. Expenditure during fiscal year, \$25,534.00..

Fairhaven

March 30, 1948, contract made with Thomas Brothers of Middleboro, for reconstructing about 2,260 feet of State highway on Spring Street; the surface consisting of bituminous concrete pavement. The proposal amounted to \$65,739.00. Work completed August 3, 1948. Expenditure during fiscal year, \$48,967.60.

Yarmouth

March 30, 1948, contract made with Almquist Bros. of Quincy, for reconstructing about 1,472 feet of the State highway drainage system on North Road. The proposal amounted to \$18,859.00. Work completed July 27, 1948. Expenditure during fiscal year, \$11,797.87.

Shrewsbury-Northborough-Westborough

March 30, 1948, contract made with National Contractors Co., Inc. of Somerville, for resurfacing about 12,178 feet of State highway on the Worcester Turnpike; the surface consisting of bituminous concrete pavement. The proposal amounted to \$118,868.80. Work just commenced. Expenditure during fiscal year, \$19,934.02.

Shrewsbury-Northborough-Westborough

April 6, 1948, contract made with Bayer & Mingolla Construction Company, Inc. of Worcester, for resurfacing about 11,778 feet of State highway on the Worcester Turnpike; the surface consisting of bituminous concrete pavement. The proposal amounted to \$114,391.70. Work completed June 30, 1948. Expenditure during fiscal year, \$92,957.38.

Stonham

April 6, 1948, contract made with Sebastian Triconi of Waltham, for widening about 2,985 feet of State highway on the westerly side of Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$20,767.50. Work about three-fifths completed. Expenditure during fiscal year, \$12,790.12.

Gloucester

April 13, 1948, contract made with G. Rotondi & Sons, of Melrose, and Munroe-Langstroth, Inc. of North Attleborough, for constructing a concrete rigid frame bridge over Essex Avenue and partial construction of about 900 feet of approaches thereto; constructing a steel stringer bridge over Concord Street and partial construction of about 238 feet of approaches thereto; constructing a steel stringer bridge to carry Crafts Road over highway and about 185 feet of approaches thereto; constructing a steel stringer bridge over Marsh Street and partial construction of about 248 feet of approaches thereto; constructing about 1000 feet of highway on Essex Avenue; the surface of the bridges consisting of bituminous concrete; the surface of the approaches of bituminous treated gravel and the surface of the road of bituminous macadam. The proposal amounted to \$644,958.80. Work about one-third completed. Expenditure during fiscal year, \$182,078.40.

Ware

April 13, 1948, contract made with San-Vel Contracting Co. of Littleton, for constructing a steel plate girder bridge to carry tracks of Boston and Albany Railroad and constructing about 1,806 feet of State highway on Palmer Road; the surface consisting of bituminous macadam. The proposal amounted to \$188,397.85. Work just commenced. Expenditure during fiscal year, \$32,718.65.

Adams

April 13, 1948, contract made with George E. Duteau of Springfield, for reconstructing about 6,500 feet of State highway on Orchard Street; the surface consisting of bituminous macadam. The proposal amounted to \$76,818.00. Work just commenced. Expenditure during fiscal year, \$6,386.05.

New Salem-Shutesbury

April 13, 1948, contract made with Scott Bros. of Ludlow, for surface treatment with bituminous material of about 12,257 feet of State highway on Auto Route 202. The proposal amounted to \$3,442.50. Work completed June 16, 1948. Expenditure during fiscal year, \$2,625.28.

Petersham

April 14, 1948, contract made with Central Construction Co., Lawrence of Lawrence, for constructing about 18,178 feet of State highway on Athol Road; the surface consisting of bituminous macadam. The proposal amounted to \$411,395.00. Work about one-fourth completed. Expenditure during fiscal year, \$117,976.18.

Kingston

April 14, 1948, contract made with The Lane Construction Corporation of Meriden, Connecticut, for constructing a steel stringer bridge to carry Main Street and constructing about 7,816 feet of State highway; the surface of the bridge consisting of bituminous concrete pavement and the surface of the road consisting of bituminous macadam. The proposal amounted to \$442,845.25. Work just commenced. Expenditure during fiscal year, \$31,938.24.

Falmouth

April 20, 1948, contract made with Frederick V. Lawrence, Inc. of Falmouth, for installing a drainage system on the State highway on North Shore Road and Depot Road. The proposal amounted to \$15,530.75. Work completed August 20, 1948. Expenditure during fiscal year, \$4,390.04.

Amherst-Hadley

April 20, 1948, contract made with Scott Bros. of South Hadley, for surface treatment with bituminous material of about 26,142 feet of State highway on Auto Route 9. The proposal amounted to \$6,747.00. Work practically completed. Expenditure during fiscal year, \$4,768.08.

Lakeville

April 27, 1948, contract made with Warren Brothers Roads Company of Cambridge, for resurfacing about 10,342 feet of State highway on Auto Route 18. The proposal amounted to \$18,067.00. Work completed July 9, 1948. Expenditure during fiscal year, \$14,232.88.

Lynnfield-Wakefield

April 27, 1948, contract made with M. DeMatteo Construction Co. of Quincy, for constructing a concrete rigid frame bridge with stone facing over Main Street; constructing a concrete rigid frame bridge over Saugus River; constructing a concrete rigid frame bridge over tracks of the Boston and Maine Railroad; constructing a concrete rigid frame bridge with stone facing over Charles Avenue; and constructing about 10,390 feet of State highway on the Northern Circumferential Highway; the surface of the road consisting of bituminous macadam. The proposal amounted to \$976,598.55. Work just commenced. Expenditure during fiscal year, \$34,045.15.

Grafton

May 4, 1948, contract made with Rome Construction Company of Holden, for reconstructing about 6,500 feet of State highway on Upton Street; the surface consisting of bituminous macadam. The proposal amounted to \$48,629.20. Work just commenced. Expenditure during fiscal year, \$7,275.54.

Plymouth

May 11, 1948, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for constructing a concrete beam and slab bridge over Samoset Street and constructing about 9,400 feet of State highway on the Kingston-Plymouth Bypass; the surface of the bridge consisting of bituminous concrete pavement and the surface of the road consisting of bituminous macadam. The proposal amounted to \$539,338.25. Work just commenced. Expenditure during fiscal year, \$9,940.75.

Randolph

May 11, 1948, contract made with Blue Hill Sand & Gravel Co. Inc. of Randolph, for widening and surfacing about 496 feet of State highway on North Main Street; the surface consisting of bituminous concrete pavement. The proposal amounted to \$6,040.00. Work just commenced. Expenditure during fiscal year, \$462.40.

Bristol and Norfolk Counties

May 18, 1948, contract made with New England Forestry Service Inc. of Boston, for trimming trees on State highways in various communities. The proposal amounted to \$7,080.00. Work completed August 27, 1948. Expenditure during fiscal year, \$1,949.14.

Becket

May 18, 1948, contract made with Cooke-Ross Inc. of Torrington, Connecticut, for reconstructing about 548 feet of State highway on Auto Routes 8 and 20; the surface consisting of bituminous concrete. The proposal amounted to \$7,000.00. Work completed July 6, 1948. Expenditure during fiscal year, \$5,554.35.

Bourne-Marion-Mattapoisett

May 18, 1948, contract made with Gallo Construction Co. of Bourne, for surface treatment with bituminous material of about 61,808 feet of State highway on Auto Routes 3 and 6. The proposal amounted to \$27,745.00. Work completed July 22, 1948. Expenditure during fiscal year, \$4,612.50.

Boston

May 18, 1948, contract made with National Contractors Co., Inc. of Somerville, for resurfacing about 8,700 feet of State highway on Washington Street; the surface consisting of bituminous concrete. The proposal amounted to \$15,450.00. Work completed June 25, 1948. Expenditure during fiscal year, \$12,007.19.

Braintree

May 18, 1948, contract made with Henry N. Worthington Company of Quincy, for constructing a through steel plate girder bridge with concrete deck over tracks of the New York, New Haven and Hartford Railroad and constructing about 2,100 feet of State highway on Washington and Hancock Streets; the surface consisting of bituminous concrete. The proposal amounted to \$248,675.00. Work just commenced. Expenditure during fiscal year, \$1,818.15.

South Hadley

June 1, 1948, contract made with Normandy Construction Co., Inc. of Revere, for reconstructing about 2,743 feet of State highway on Newton Street; the surface consisting of bituminous macadam. The proposal amounted to \$37,997.75. Work completed September 4, 1948. Expenditure during fiscal year, \$7,081.55.

Douglas

June 1, 1948, contract made with Hill Construction Co. of Millbury, for reconstructing about 3,000 feet of State highway on North East Main Street and Davis Street; the surface consisting of Class C bituminous road-mix. The proposal amounted to \$31,475.00. Work just commenced. Expenditure during fiscal year, \$688.50.

Springfield-West Springfield

June 1, 1948, contract made with National Gunitite Corporation of Boston, for making gunitite repairs to Memorial Bridge over the Connecticut River. The proposal amounted to \$22,340.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Gill-Greenfield

June 8, 1948, contract made with Couture Bros., Inc. of Montague, for cleaning and painting Factory Hollow Bridge on Auto Route 2 over Falls River. The proposal amounted to \$1,430.00. Work completed August 24, 1948. Expenditure during fiscal year, Nothing.

Hingham-Norwell

June 8, 1948, contract made with S. J. Tomasello Corporation, of Boston, for resurfacing about 23,121 feet of State highway on Auto Route 2; the surface consisting of bituminous concrete. The proposal amounted to \$91,653.20. Work completed September 24, 1948. Expenditure during fiscal year, Nothing.

Oak Bluffs-Tisbury

June 8, 1948, contract made with Colby Construction Company of Tisbury, for resurfacing about 10,170 feet of State highway; the surface consisting of bituminous road-mix. The proposal amounted to \$15,355.00. Work completed August 16, 1948. Expenditure during fiscal year, \$3,338.80.

Somerville

June 8, 1948, contract made with R. W. LeBaron, Inc. of Arlington, for furnishing and installing traffic control signals on Mystic Avenue. The proposal amounted to \$5,662.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

Amherst

June 8, 1948, contract made with R. W. LeBaron, Inc. of Arlington, for furnishing and installing traffic control signals on the State highway at the junction of Routes 116 and 63. The proposal amounted to \$5,678.25. Work completed August 12, 1948. Expenditure during fiscal year, Nothing.

Fairhaven

June 8, 1948, contract made with Municipal Signal & Supply Company of Boston, for furnishing and installing traffic control signal on the State highway at the intersection of Rattlestone Avenue, Route 6, and Main Street. The proposal amounted to \$5,365.03. Work completed July 28, 1948. Expenditure during fiscal year, Nothing.

Deerfield-Greenfield

June 15, 1948, contract made with John T. Bradley of Newton, for cleaning and painting Cheapside Bridge over the Deerfield River. The proposal amounted to \$6,752.00. Work completed October 18, 1948. Expenditure during fiscal year, Nothing.

Lowell

June 15, 1948, contract made with National Painting Company of Arlington, for cleaning and painting Central Bridge on Auto Route 110 over Merrimac River. The proposal amounted to \$8,500.00. Work completed September 24, 1948. Expenditure during fiscal year, Nothing.

Sheffield

June 22, 1948, contract made with W. W. Wyman, Inc. of Shelburne, for constructing new deck and cleaning and painting bridge on Auto Route 7 over Housatonic River; the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$16,528.45. Work not yet commenced. Expenditure during fiscal year, Nothing.

Hadley-Northampton

June 22, 1948, contract made with The Penetryn System, Inc. of Albany, New York, for repairing deck of the Calvin Coolidge Bridge over the Connecticut River. The proposal amounted to \$26,074.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Medford-Somerville

June 22, 1948, contract made with National Contractors Co. Inc. of Somerville, for resurfacing about 8,537 feet of State highway on Mystic Avenue; ^{the surface} consisting of bituminous concrete. The proposal amounted to \$56,314.75. Work completed September 9, 1948. Expenditure during fiscal year, Nothing.

Fairhaven

June 29, 1948, contract made with Thomas Brothers of Middleborough, for constructing traffic island and resurfacing about 347 feet of State highway on Huttles-ton Avenue and Middle Street; the surface consisting of bituminous concrete. The proposal amounted to \$7,779.00. Work completed September 29, 1948. Expenditure during fiscal year, Nothing.

Provincetown

June 29, 1948, contract made with Continental Construction Corporation of Lynnfield, for installing a drainage system on Bradford Street, Conwell Street and Race Point Road. The proposal amounted to \$10,706.95. Work completed July 28, 1948. Expenditure during fiscal year, Nothing.

Auburn

June 29, 1948, contract made with Bayer & Mingolla Construction Company, Inc. of Worcester, for resurfacing about 16,323 feet of State highway on Route 20; the surface consisting of bituminous concrete. The proposal amounted to \$158,265.80. Work completed September 23, 1948. Expenditure during fiscal year, Nothing.

Watertown

June 29, 1948, contract made with Sebastian Triconi of Waltham, for resurfacing about 4,488 feet of State highway on Main Street; the surface consisting of bituminous concrete. The proposal amounted to \$36,925.35. Work completed August 17, 1948. Expenditure during fiscal year, Nothing.

Newburyport-Salisbury

June 29, 1948, contract made with Frederick W. Byron of Dedham, for constructing new grid floor on the bridge over the Merrimac River on Auto Route 1. The proposal amounted to \$158,760.00. Work not yet commenced. Expenditure during the fiscal year, Nothing.

Shrewsbury and Worcester

June 29, 1948, contract made with Berke Moore Company, Inc. of Boston, for repairing the bridge over Lake Quinsigamond on Route 20. The proposal amounted to \$119,107.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Colrain

June 29, 1948, contract made with S. Rosenthal & Son of Cambridge, for cleaning and painting Griswoldville Bridge and Thompson Bridge on Auto Route 112 over North River. The proposal amounted to \$4,150.00. Work completed August 31, 1948. Expenditure during fiscal year, Nothing.

Fairhaven-New Bedford

June 29, 1948, contract made with Berke Moore Company, Inc. of Boston, for constructing an open steel grid floor on the Fairhaven Bridge over New Bedford Harbor. The proposal amounted to \$69,825.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

July 1, 1947 - June 30, 1948

The following contracts were entered into for miscellaneous work:

Massachusetts

July 1, 1947, contract made with President and Fellows of Harvard College of Cambridge, for making aerial photography and photogrammetry for the advancement of highway design and location. The proposal amounted to \$15,000.00. Work about one-half completed. Expenditure during fiscal year, \$8,350.57.

Boston

July 22, 1947, contract made with Boston Marine Works, Inc. of Boston, for making repairs to machinery of the Dorchester Avenue Bridge over Fort Point Channel. The proposal amounted to \$24,347.00. Work completed January 6, 1948. Expenditure during fiscal year, \$27,278.72.

Massachusetts

August 12, 1947, contract made with Daniel Lanehan, S. J. of Weston, for making geophysical determination of bedrock and nature of intervening materials in various municipalities. The proposal amounted to \$4,000.00. Work completed June 29, 1948. Expenditure during fiscal year, \$2,975.00.

Bourne

August 19, 1947, contract made with Plymouth County Electric Company of Plymouth, for furnishing street lighting service at the Sagamore Traffic Circle. The proposal amounted to \$1,900.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Bourne

August 19, 1947, contract made with Plymouth County Electric Company of Plymouth, for furnishing street lighting service at the Bourne North Traffic Circle. The proposal amounted to \$2,375.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Bourne

August 19, 1947, contract made with Cape & Vineyard Electric Company of Hyannis, for furnishing street lighting service at the Bourne South Traffic Circle. The proposal amounted to \$2,185.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Boston Metropolitan Area

September 5, 1947, contract made with Charles A. Maguire & Associates of Providence, Rhode Island, for consulting engineering services for a complete report with substantiating data for a master plan of highways. The proposal amounted to \$107,000.00. Work practically completed. Expenditure during fiscal year, \$98,950.00.

Boston

September 16, 1947, contract made with John McCourt Company of Boston, for resurfacing the concrete floor and reconstructing the granolithic sidewalk at the Commonwealth Armory on Gaffney Street; the surface of the floor consisting of bituminous concrete pavement. The proposal amounted to \$3,387.50. Work completed October 11, 1947. Expenditure during fiscal year, \$3,592.15.

New Bedford

September 16, 1947, contract made with Hawes Electric Company of New Bedford, for making electrical alterations at the New Bedford Drawbridge on Auto Route 6 over the Acushnet River. The proposal amounted to \$250.00. Work completed December 4, 1947. Expenditure during fiscal year, \$249.41.

Sunderland

October 21, 1947, contract made with The Mutual Plumbing and Heating Company of Amherst, for furnishing and installing heating system in the storehouse of the Department. The proposal amounted to \$2,075.00. Work completed March 19, 1948. Expenditure during fiscal year, \$2,075.00.

Shirley

October 21, 1947, contract made with Lawrence Sand & Stone Co. of Lawrence, for constructing about 8,170 feet of highway on Ayer Road Relocation and Front Street; the surface consisting of bituminous macadam. The proposal amounted to \$130,460.50. Work about three-fifths completed. Expenditure during fiscal year, \$82,759.02.

Consulting Engineering Service

November 25, 1947, contract made with Griffenhagen and Associates of Chicago, Illinois, for making organization study of the Department. The proposal amounted to \$5,000.00. Work completed March 1, 1948. Expenditure during fiscal year, \$5,102.00.

Millbury

December 9, 1947, contract made with Henry K. Greenwood of Millbury, for installing electrical services at the maintenance storage pit of the Department. The proposal amounted to \$205.00. Work completed December 27, 1947. Expenditure during fiscal year, \$205.00.

Boston-Brookline

December 11, 1947, contract made with P. A. Milan, Inc. of Boston, for dismantling and moving contents of the Traffic Shop at 316 Boylston Street, Brookline to a new location at 1890 Columbus Avenue, Boston. The proposal amounted to \$3,450.00. Work completed January 7, 1948. Expenditure during fiscal year, \$3,287.60.

Engineering Services

December 16, 1947, contract made with Hugh P. Duffill of Pembroke, for inspecting and rating nine bridges acquired under the provisions of Chapter 690 of the Acts of 1945. The proposal amounted to \$4,000.00. Work completed April 30, 1948. Expenditure during fiscal year, \$3,889.60.

Cheshire

December 16, 1947, contract made with T. J. Harvey & Son, Inc. of Adams, for constructing about 2,725 feet of highway on Savoy Road; the surface consisting of bituminous macadam. The proposal amounted to \$123,007.05. Work about one-third completed. Expenditure during fiscal year, \$46,104.68.

Cambridge

December 18, 1947, contract made with Stearns Perry & Smith Co. of Boston, for making electrical repairs at the First Street Drawbridge on Auto Route 28 over the Broad Canal. The proposal amounted to \$780.00. Work completed May 25, 1948. Expenditure during fiscal year, \$433.35.

Sudbury

December 23, 1947, contract made with W. A. Freeman Co. of Maynard, for replacing domestic hot and cold water piping with copper tubing in house at the Sudbury Nursery. The proposal amounted to \$270.67. Work completed February 26, 1948. Expenditure during fiscal year, \$270.67.

Legislative Reports

December 30, 1947, contract made with Legislative Reporting Service of Boston, for furnishing service relative to legislative bills. The proposal amounted to \$200.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Ayer-Harvard-Shirley

January 13, 1948, contract made with Coleman Bros. Corporation of Boston, for constructing a three-span steel stringer bridge with concrete deck over Nashua River and about 1,700 feet of highway on Shirley Road; the surface of the bridge consisting of bituminous concrete pavement and the surface of the road consisting of bituminous macadam. The proposal amounted to \$288,837.90. Work just commenced. Expenditure during fiscal year, \$27,953.91.

Deerfield

January 20, 1948, contract made with John A. Roebling's Sons Company of New Jersey, for inspecting the cables and other parts of the suspension system of the Stillwater Suspension Bridge. The proposal amounted to \$500.00. Work completed March 23, 1948. Expenditure during fiscal year, \$352.95.

Boston-Cambridge

January 20, 1948, contract made with Casey & Hayes of Boston, for moving furniture and office equipment of the District #4 office from 353 Washington Street, Brighton, to 130 Third Street, Cambridge. The proposal amounted to \$396.00. Work completed January 28, 1948. Expenditure during fiscal year, \$460.00.

Beverly

February 25, 1948, contract made with Armco Drainage & Metal Products, Inc. of Baltimore, Maryland, for furnishing and erecting a metal industrial building on State property at 102 Park Street. The proposal amounted to \$3,622.50. Work completed May 17, 1948. Expenditure during fiscal year, \$3,622.50.

Pittsfield

March 2, 1948, contract made with Warner Bros. Inc. of Sunderland, for constructing a steel stringer bridge with concrete deck over tracks of Boston and Albany Railroad and approaches thereto on First Street; the surface of the bridge consisting of bituminous concrete and the approaches of cement concrete. The proposal amounted to \$85,577.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

Beverly-Salem

March 9, 1948, contract made with Seaboard Construction Company of Chelsea, for driving piles to strengthen drawtender's house at the Essex Bridge. The proposal amounted to \$887.00. Work completed April 29, 1948. Expenditure during fiscal year, \$887.00.

Bernardston-Greenfield

April 13, 1948, contract made with E. T. O'Neill & Son of Holyoke, for repairing approaches to Hale's Crossing Bridge over Boston and Maine Railroad. The proposal amounted to \$4,456.00. Work about one-half completed. Expenditure during fiscal year, \$1,719.63.

Massachusetts

April 20, 1948, contract made with Daniel Linehan, S. J. of Weston, for making geophysical determination of bedrock and nature of intervening materials in various municipalities. The proposal amounted to \$1,500.00. Work Completed July 28, 1948. Expenditure during fiscal year, Nothing.

Revere

April 27, 1948, contract made with Sal-Ray Construction Co. of Needham, for reconstructing about 320 feet of highway on Revere Street; the surface consisting of bituminous concrete. The proposal amounted to \$18,446.50. Work completed September 25, 1948. Expenditure during fiscal year, \$11,402.85.

Beverly

May 4, 1948, contract made with Elba Electric Co. of Brookline, for removing existing light fixtures and replacing with fluorescent light fixtures in the District Office at 242 Cabot Street. The proposal amounted to \$907.24. Work completed June 25, 1948. Expenditure during fiscal year, \$771.15.

Revere

May 18, 1948, contract made with Rev-Lyn Contracting Co. of Lynn, for repairing tide gate and culvert on Bennington Street. The proposal amounted to \$3,235.00. Work completed July 14, 1948. Expenditure during fiscal year, Nothing.

Inspect Materials

May 25, 1948, contract made with Pittsburgh Testing Laboratory of Pennsylvania, for inspecting materials to be used in highways and bridge projects. The proposal amounted to \$6,785.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Cheshire

June 1, 1948, contract made with Town of Cheshire, for repairing Stewart White Road. The proposal amounted to \$500.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Beverly

June 8, 1948, contract made with Wilson & Robinson, Inc. of Salem, for installing electrical wiring in building at 102 park street. The proposal amounted to \$200.00. Work completed June 25, 1948. Expenditure during fiscal year, Nothing.

Easton-West Bridgewater

June 15, 1948, contract made with David J. Roach of East Bridgewater, for constructing a concrete arch extension to a stone masonry arch bridge over Hockamock River and reconstructing about 8,648 feet of highway on Foundry Street and West Center Street; the surface of the bridge extension consisting of bituminous treated gravel and the surface of the road of bituminous macadam. The proposal amounted to \$171,248.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

Cambridge-Somerville

June 22, 1948, contract made with John McCourt Company of Boston, for resurfacing about 5,000 feet of highway on the Northern Artery; the surface consisting of bituminous concrete. The proposal amounted to \$69,112.00. Work completed September 4, 1948. Expenditure during fiscal year, Nothing.

Palmer

June 29, 1948, contract made with George E. Duteau of Springfield, for resurfacing about 4,105 feet of highway on Main Street; the surface consisting of bituminous concrete. The proposal amounted to \$48,249.00. Work completed September 15, 1948. Expenditure during fiscal year, Nothing.

Holbrook

June 29, 1948, contract made with Charles Capone Construction Co., Inc. of Boston, for constructing about 6,225 feet of highway on South Franklin Street; the surface consisting of bituminous concrete. The proposal amounted to \$223,762.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

BORINGS

July 1, 1947 - June 30, 1948

The following contracts were entered into for taking borings in various municipalities:

July 8, 1947, contract made with B. F. Smith and Company, Incorporated of Boston, for taking wash borings in the town of Palmer. The proposal amounted to \$610.00. Work completed July 16, 1947. Expenditure during fiscal year, \$340.87.

October 21, 1947, contract made with Raymond Concrete Pile Company of Boston, for making wash borings in the municipalities of Danvers, Holden, Oxford, West Bridgewater, Westhampton and Worcester. The proposal amounted to \$2,839.25. Work completed November 13, 1947. Expenditure during fiscal year, \$1,706.87.

December 2, 1947, contract made with Raymond Concrete Pile Company of Boston, for making wash borings in the town of Groveland and the city of Haverhill. The proposal amounted to \$1,564.20. Work completed April 5, 1948. Expenditure during fiscal year \$1,385.74.

February 18, 1948, contract made with B. F. Smith and Company, Incorporated of Boston, for making wash borings for proposed highway construction from Summer Tunnel to McClellan Highway in the city of Boston. The proposal amounted to \$805.20. Expenditure during fiscal year, \$860.46. Work completed March 12, 1948.

100% FEDERAL AID

July 1, 1947 -- June 30, 1948

The following contracts were entered into during the year for highway work with Federal Government paying 100% of the cost of construction.

Pittsfield

March 2, 1948, contract made with Warner Brothers, Inc. of Sunderland for constructing a steel stringer bridge and approaches over the tracks of the Boston and Albany Railroad on First Street, including about 396 feet of highway; the surface of the bridge consisting of Class I bituminous concrete and the surface of the road consisting of reinforced cement concrete. The proposal amounted to \$85,577.50. The project was carried over to the next fiscal year. Expenditure during fiscal year; nothing.

Ware

April 13, 1948, contract made with San-Vel Contracting Co. of Littleton for constructing a thru plate girder carrying single track of the Boston and Albany Railroad over the Palmer Road and for constructing about 1800 feet of highway; the surface of the road consisting of bituminous macadam. The proposal amounted to \$188,397.85. The project was carried over to the next fiscal year, being completed August 2, 1949. Expenditure during fiscal year, \$29,022.00. (Exclusive of Land Damage and Railroad charges).

Braintree

May 18, 1949, contract made with Henry N. Worthington Company of Quincy for constructing a steel stringer bridge and approaches over the tracks of the New York, New Haven and Hartford Railroad on Washington Street, including about 2100 feet of highway; the surface of the bridge and of the road consisting of Class I bituminous concrete. The proposal amounted to \$248,675.00. The project was carried over to the next fiscal year. Expenditures during fiscal year; nothing.

PUBLIC WORKS BUILDING CONTRACTS - July 1, 1947 - June 30, 1948

The following contracts were entered into during the year for miscellaneous work in the office building of the Department of Public Works, 100 Nashua Street, Boston.

July 1, 1947, contract made with Otis Elevator Company of Boston, for repairing and maintenance service of the elevators and pertinent equipment. The proposal amounted to \$12,423.00. Work completed June 30, 1948. Expenditure during fiscal year, \$4,999.90.

July 25, 1947, contract made with Allen Shade Holder Co. of Boston, for repairing and furnishing window shades. The proposal amounted to \$263.63. Work completed June 30, 1948. Expenditure during fiscal year, \$295.03.

July 25, 1947, contract made with Careful Cleaning Co. of Boston, for cleaning windows every two months. The proposal amounted to \$2,100.00. Work completed June 30, 1948. Expenditure during fiscal year, \$2,100.00.

August 19, 1947, contract made with R. A. Buccella & Sons of Boston, for furnishing and installing a door and frame in cinder block partition on the second floor of the office building. The proposal amounted to \$420.00. Work completed November 12, 1947. Expenditure during fiscal year, \$420.00.

September 16, 1947, contract made with Olaf M. Johnsen of Quincy, for insulating the water pipe line to the tenth floor in the office building. The proposal amounted to \$48.00. Work completed September 17, 1947. Expenditure during fiscal year, \$48.00.

October 21, 1947, contract made with Boyd Weatherproofing Service of Everett, for repointing the joints of certain portions of the walls of the office building. The proposal amounted to \$3,400.00. Work completed December 19, 1947. Expenditure during fiscal year, \$3,400.00.

December 16, 1947, contract made with A. B. Stanley Company, Inc. of Boston, for furnishing and installing upsliding sash units in the laboratory. The proposal amounted to \$442.50. Work completed March 22, 1948. Expenditure during fiscal year, \$442.50.

December 30, 1947, contract made with James Wilkinson Co. of Boston, for furnishing and installing fluorescent lights in the Public Works Building. The proposal amounted to \$10,459.24. Work completed April 7, 1948. Expenditure during fiscal year, \$9,981.87.

CHAPTER 690 BRIDGES

The following contracts were entered into during the year for the construction and reconstruction of bridges transferred to the Department under the provisions of Chapter 690, Acts of 1945, and work incidental thereto in various municipalities:

Chesterfield

July 1, 1947, contract made with W. W. Wyman, Inc. of Shelburne, for constructing a concrete slab bridge over the canal and a steel stringer bridge over the Westfield River and about 850 feet of approaches thereto on Main Road; the surface of the bridges consisting of bituminous concrete pavement and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$134,358.86. Work completed August 25, 1948. Expenditure during the fiscal year, \$106,327.16.

Newburyport

September 16, 1947, contract made with Engineering Service & Construction Company of Boston, for constructing a through-girder overpass on the Newburyport Turnpike. The proposal amounted to \$17,445.00. Work completed June 25, 1948. Expenditure during fiscal year \$13,605.67.

Blackstone

October 7, 1947, contract made with M. & R. Construction Co. of Boston, for constructing a steel stringer bridge over Blackstone Canal and tracks of the New York, New Haven and Hartford Railroad and about 1,026 feet of approaches thereto on Main Street; the surface consisting of bituminous concrete. The proposal amounted to \$197,506.00. Work about one-half completed. Expenditure during the fiscal year, \$123,081.39.

Adams

October 28, 1947, contract made with Petricca Construction Company of Pittsfield, for constructing a steel stringer bridge over Hoosic River and about 400 feet of approaches thereto on Commercial Street; the surface consisting of bituminous concrete. The proposal amounted to \$87,593.00. Work just commenced. Expenditure during fiscal year, \$10,091.93.

North Adams

June 8, 1948, contract made with W. W. Wyman, Inc. of Shelburne, for constructing a steel stringer bridge with a concrete deck over the Hoosic River and about 350 feet of approaches thereto on Beaver Street; the surface of the easterly approach consisting of reinforced cement concrete pavement and the surface of the westerly approach consisting of bituminous concrete pavement. The proposal amounted to \$98,511.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

Holden

June 29, 1948, contract made with The Henley-Lundgren Company of Shrewsbury, for reconstructing the present bridge over the Boston and Maine Railroad and about 850 feet of approaches thereto on Reservoir Street; the surface consisting of Class I bituminous concrete. The proposal amounted to \$30,957.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Taunton

June 29, 1948, contract made with Samuel H. Clarke of Revere, for constructing a steel stringer concrete slab bridge over Mill River and about 77 feet of approaches thereto on Washington Street; the surface consisting of Class I bituminous concrete. The proposal amounted to \$22,311.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Boston

June 29, 1948, contract made with Berke Moore Company, Inc. of Boston, for reconstructing the present bridge over Fort Point Channel and about 640 feet of approaches thereto on Dorchester Avenue; the surface consisting of Class I bituminous concrete. The proposal amounted to \$314,584.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

Springfield and West Springfield

June 29, 1948, contract made with Berke Moore Company, Inc. of Boston, for making repairs to North End Bridge over the Connecticut River. The proposal amounted to \$74,940.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Georgetown

June 29, 1948, contract made with Georgetown Sand & Gravel Co. of Georgetown, for removing and filling in the existing bridge and constructing about 81 feet of State highway and reconstructing about 619 feet of town highway on West Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$11,471.20. Work not yet commenced. Expenditure during fiscal year, Nothing.

Northampton

June 29, 1948, contract made with Estate of Roy M. Wright of Springfield, for constructing a single span steel stringer bridge over Clarke Avenue and about 245 feet of approaches thereto on Clarke Avenue and constructing a two-span steel stringer bridge over the New York, New Haven and Hartford Railroad and about 1,015 feet of approaches thereto on South Street; the surface consisting of bituminous concrete pavement and bituminous macadam. The proposal amounted to \$144,390.85. Work not yet commenced. Expenditure during fiscal year, Nothing.

REPORT OF THE RIGHT OF WAY DIVISION FOR
THE FISCAL YEAR ENDING JUNE 30, 1948

The Right of Way Division has the responsibility, in the procurement of all land and rights in land, of settling all land damages throughout the Commonwealth in connection with the construction and reconstruction of State Highways. It also assists in the acquirement of land by purchase for use of the Maintenance Division of the Department. It assists other agencies and divisions of the State Department; and prepares all drainage easement plans on construction, reconstruction and maintenance projects on State Highways.

During the past year the Right of Way Division recommended two legislative acts in connection with the acquisition of land for State Highway purposes under the Limited Access Ways Act, which provides a more liberal right of way policy to provide a more adequate right of way to meet present and anticipated future traffic requirements and to facilitate through traffic which is increasing yearly. The limited access way controls access at the same time the abutting property owners have rights of ingress and egress, therefore, bringing up complex problems relating to abutting properties which may be affected by the layout of the limited access highway. Limited access, freeway and parkway, and controlled-access highways are now sanctioned in twenty-four States.

One of the acts approved June 1, 1948, is "an act to authorize the Department of Public Works to take or acquire easements to provide access for land abutting a limited access highway." The other act, approved June 1, 1948, is "an act authorizing the Department of Public Works to grant certain easements within State Highway locations for wires, pipes, poles, conduits and cattle passes." Both of these acts will aid in handling more successfully right of way acquisition.

The Federal Aid Highway Act of 1944, Public Law 521, 78th Congress, and the Federal Aid Road Act of 1915, as amended and supplemented, under which right of way costs are participated in by the Federal Government, of new or additional lands required and acquired subsequent to July 13, 1943; said participation may not exceed one-third of such cost except in the case of railroad grade crossing projects where the right of way cost is limited to fifty per cent of such cost paid from public funds.

In accordance with Federal Works Agency, Public Roads Administration, General Administrative No. 149, the Right of Way Division is required to furnish to Public Roads Administration three copies of the following documents substantiating settlements and costs in connection therewith.

1. Tabulation showing parcel number, owner, area of taking, amount of appraisal if pending, amount of award if settled, fees for recording deeds, plans, easements, registered land parcels, conveyancing, outside appraisals, photographs, court costs including witnesses' fees, and bus line for jury.
2. Layout plan. This shows the parcel number and name.
3. Appraisal sheet in detail, showing description of entire property, description of taking and effect on remainder, assessed value,

land and buildings, appraisal of damages in detail; basis of appraisal, which consists of comparative sales, concessions to reduce damages.

4. Outside appraisals, in case of anticipated court case.

5. Offer of settlement form, with vote of the Board. The offer of settlement is signed by the owner and assented to by the mortgagee; giving the stations, owner's name, area in square feet if it is a taking, noted if grade damage; amount of settlement, with concessions, and with a special plan attached if one is required showing proposed grades.

6. Court settlements or cases settled by the Attorney General's Office, with vote of the Board.

7. Prints of drainage easement plans.

Up to the present time fifteen sets of these documents have been forwarded to Public Roads Administration.

As soon as the Right of Way appraisals have been made on the Federal Aid projects and approved by the Right of Way Engineer and Associate Commissioners of the Massachusetts Department of Public Works, they are then approved by the New England representative of Public Roads Administration, Federal Works Agency. Following this, a preliminary estimate sheet is prepared, giving the parcel number, owner, area in square feet, a brief description of the taking, and the amount of the appraisal approved. This is confirmatory and submitted to Public Roads Administration through the Project Engineer's Office.

During the fiscal year just ended there were forty-two projects in forty cities and towns, involving the settlement of 363 land damage cases, and some seventy rights of entry were obtained for certain work to be done on private properties. Appraisals were made of each property affected either by the taking or a change in grade.

Adams	Douglas	Methuen	Stoneham
Beverly	Fairhaven	Milton	Southbridge
Blackstone	Fitchburg	Montague	South Hadley
Bourne	Grafton	North Adams	Taunton
Charlton	Greenfield	Orange	Wakefield
Chesterfield	Holden	Petersham	Wales
Chicopee	Kingston	Pittsfield	Ware
Conway	Leominster	Plymouth	Wellfleet
Danvers	Lynnfield	Randolph	West Stockbridge
Deerfield	Marshfield	Shirley	Whately

During the year land damage studies were made in connection with proposed takings and construction involved on proposed new projects in the following cities and towns:

Adams	Danvers	Lakeville
Arlington	Dedham	Lenox
Belchertown	Douglas	Lowell
Boston (Express Highway)	Georgetown	Needham-Wellesley-
Boston (Logan Airport)	Hanover	Newton-Weston

Northampton
Peabody

Plymouth
Revere

Reading
Rowley

Salisbury

The drafting section of this Division was employed on the following:

Release prints posted for land damage purposes--34 sets.

One for the Right of Way Engineer's office record,
One for the use of the Right of Way field men,
One for the District Engineer's office use.

Prints to accompany project proposals, submitted to Public Roads Administration--55 sets.

Plans made for the purpose of securing drainage easement rights:

Construction and Reconstruction of State Highways	108
Maintenance	18
Chapter 90	13
	<u>139</u>

Plans were prepared showing proposed grading on private property to conform to new construction; also, plans for outside appraisals, court cases, and miscellaneous plans.

PROJECTS

Field studies and reconnaissance surveys were made in 5 cities and 23 towns for a total of 73 miles in the development of the highway system.

The reconnaissance studies were made on the routes, cities, and towns as follows:-

Route 1 - Relocation-Danvers, Topsfield, Ipswich, Rowley, Georgetown, Newbury, Newburyport, Amesbury and Salisbury for a length of 21.6 miles.

Route 2 - Relocation-Concord, Acton, Boxborough, Littleton and Harvard for a length of 14 miles.

Route 15 - Relocation-Sturbridge-Holland for a length of 6.75 miles.

Route 20 - Relocation-Oxford, Charlton and Sturbridge for a length of 17.4 miles.

Route 67 - Warren and Palmer for a length of 2.9 miles.

Route 97 - Groveland-Haverhill bridge, 0.3 miles

Route 128 - Wellesley-Newton-Weston-Waltham and Lexington for a length of 10 miles.

Urban studies were also conducted in Plymouth and Pittsfield. Considerable study was devoted to plans for the Boston Central Artery and its connecting links.

Aerial photography was used extensively and the results aided materially in project preparation.

Thirty major projects estimated and advertised during the year, which were financed in whole or in part with Federal Funds at a total of approximately \$9,500,000.

In addition to the Federal projects surveys were made, plans plotted, projects designed and estimated for hundreds of Chapter 90 projects with a total value in excess of \$6,000,000.

The following is a resume of some of the more important highway projects which were advertised:-

Peabody, A section in the modernization of the Newburyport Turnpike 0.7 miles in length.

Newton-Wellesley-Westborough, Resurfacing of the Worcester Turnpike for a length of about 13 miles.

Leominster-Fitchburg, For the construction of another section of the Concord-Westminster Highway, 4.4 miles in length.

Kingston-Plymouth, For the construction of another section of this By-Pass 3.3 miles in length.

Lynnfield-Wakefield, For the construction of another section of the Northern Circumferential Highway for a length of 2 miles.

Wellfleet, For the reconstruction of 4.1 miles of the G.A.R Highway.

Sutton, for the construction of 2.1 miles on another section of the Worcester-Providence Highway.

Ayer-Shirley, For the relocation of the old road for a length of 1.8 miles.

Braintree, For the reconstruction of Washington St. for a distance of 2.1 miles including a bridge over the New York New Haven and Hartford Railroad.

Charlton-Southbridge, For the reconstruction of this highway for a distance of 4.4 miles.

TRAFFIC DIVISION
ANNUAL REPORT
1947-1948

1948

Two years have elapsed since the return of traffic functions to the several district offices. At that time hopes were high that the travelling public would benefit greatly by the transfer through more expeditious handling of traffic matters on the ground.

As months progressed, however, our expectations gave way to disappointment. Today the situation is anything but healthy. Delays are occasioning much public irritation with consequent embarrassment to the Department.

There seem to be many reasons for the present condition. The chief cause would appear to be failure to recognize the importance of traffic, and the resultant lack of cooperation with the traffic engineering section.

Yet the year just past has not been without achievements. Following studies of various kinds, improvements were recommended at various points on State Highways. Among these were the following:

Concord, Route 2, realignment of Barrett Mills Road approach.
Framingham, Route 9, permanent closing of State Street connection.
Lexington, Route 2A, special signs at road to Bedford Airport.
Newton, Route 128, island and warning beacons at Oak Street.
Dedham, Routes 128 and 135, redesign of islands.
Hingham, Route 3A, redesign of intersection at Broad Cove.
Wareham, Route 28, redesign of intersection of Red Bank Road.
Fairhaven, Route 6, redesign of highway at Washington Street.
Orleans, Routes 6 and 8, redesign of intersection.
Hudson, Route 85, redesign of intersection.

State highway construction plans were reviewed by the Traffic Division and recommendations made in connection with:

Gloucester, Beverly, Lowell, Peabody, Danvers, Braintree,
Plymouth, Kingston, Bourne, Seekonk, Charlton, Lenox, So.
Hadley, Webster and Orange.

Chapter 90.

Recommendations were likewise made in regard to Chapter 90
roads, after a review of plans, in cities and towns mentioned below:
Nahant, Carlisle, Framingham, Sharon, Walpole, Taunton, Berlin,
No. Adams, Longmeadow, Milford, Chicopee, Marlborough.

Town Ways

Advice of an engineering nature was likewise given to the
municipalities listed below after their problems had been studied:

Amesbury - off-street parking.

Haverhill - intersection design

Marlborough - warning beacon installation.

Framingham - intersection design.

Wayland - intersection design and signs.

Weston - " " " "

Newton - " " " "

Uxbridge - signal installation.

Norwood - intersection design and signal.

Canton - Railroad signal.

Quincy - signal installation.

Taunton - intersection design.

Middleborough " "

Fall River - bus terminal study and intersection design.

Falmouth - intersection design.

Ashby - traffic signs.

Gardner - intersection design and warning beacon.

Northborough - intersection design.

Worcester - intersection design and signal.

Southbridge - " " " "

Springfield - " " " "

W. Springfield - " " " "

Westfield - " " " "

Holyoke - traffic signals.

Greenfield - intersection design.

Great Barrington - " "

Pittsfield - " "

No. Adams - " "

Wellesley - " "

Holliston - " "

Franklin - " "

Millis - warning beacon.

Walpole - intersection design.

Traffic Signals - State Highways.

The installation of traffic control signals on state highways for the 1947-1948 period was slightly in excess of the previous year.

The figures follow:

Installed	Remodeled
6 signals	5
18 beacons	1

Work was commenced on the following signals and beacons prior to the June 30, 1948 date. These installations, incidentally, have since been completed.

New signals	5
New beacons	1
Signal modernized	1

As a means of channeling traffic and of providing suitable

locations for signals, it was found necessary to construct five (5) islands in throats of state highway intersections.

Highway Illumination

In 1945 the legislature authorized the Department, in accordance with provisions of Chapter 539, to illuminate highway hazards. Accordingly, safety lighting, as it has been termed, was installed at two traffic circles in Revere; junctions of No. Shore Road, Route 1A and Route C.1 and Route 60.

Similar lighting was begun at three other points, namely, Bourne-Sagamore Circle, So. Bourne-Route 28 Circle and No. Bourne-Route 28 Circle. This work was interrupted, however, some time back because of disagreement between the Department and the town concerning the type of light-pole to be used.

Signs - Pavement Markings

The sign-erection and pavement marking programs made good headway despite certain difficulties which beset both.

During the war, sign replacements were necessarily neglected. As a result, a four-year program to renew signs impaired by time, was set up during the closing days of the conflict.

It was not possible to procure all the signs needed from the Prison. In order, therefore, to expedite matters, it was necessary to contract for many signs from outside concerns. The following table shows the number and kinds of signs obtained from two sources. Further contracts for additional signs will, incidentally, be let during 1949.

The number of signs fabricated by the Traffic Shop also shows in the tabulation.

<u>Type</u>	<u>Prison & Contract</u>	<u>TRAFFIC Shop</u>
Regulatory	3420	1200
Warning	3165	1100
Route Markers	3270	4000
Directional	1500	700
Total	11355	7000

The pavement marking program exceeded anything heretofore accomplished. The end of the fiscal year saw completion of 3,000 miles of painted lines. This progress will enable the marking of all state highways which stand in need of such treatment by the end of the calendar year. All markings complied with the standards of the American Automobile State Highway Officials.

It is well to note that additional man power, and equipment in the districts and in the Traffic Shop, assisted materially in fulfillment of both programs.

Accidents

Accident analysis during 1947-1948 continued to develop much basic data for more efficient and safer use of the various controls such as markings, signs, signals and highway design and redesign.

The record of the 12 months, from July 1, 1947 to June 30, 1948, is shown in the following table:

<u>Total Accidents</u>	<u>Injured</u>	<u>Fatal Accidents</u>	<u>Killed</u>
4579	6728	110	138

In order to show a comparison between 1947 and 1946, the calendar yearly records of persons killed to total accidents appear below:

<u>Total Accidents</u>	<u>Persons Killed</u>
1946 4608	162
1947 4591	162
decrease - 16	

The decrease shown is not great. However, the traffic volume for the year 1947 was 8.9% higher than that of 1946. The reduction does, therefore, indicate that the condition had improved.

Other accident prevention activities were the services to the State Police. Each month this agency was furnished with summaries of accidents by route, town and type of accident. Coupled with this was a list of locations where the number of accidents had increased or decreased over the same month a year previous. These data, by the way, are used by the State Police in their selective enforcement program.

The Traffic Division continued its plotting of state highway accidents on plans drawn to a scale of 300 feet to the inch. This summation is very valuable in design and redesign. It has proved extremely valuable, too, in studies of stop-sign intersections proposed by city and town officials.

Town Advice

A marked increase in the amount of town advice took place during the fiscal year just ended. Not only was there an advance in the number of approvals granted for regulations and traffic devices but, due to new legislation, Chapter 442 of the Acts of 1947, the work of the division was broadened to include the approval of all parking meters erected by cities and towns. This entailed formulating new permits, drafting a model ordinance, instructing municipalities on the intent and scope of the law, and the checking of meter locations with the tracings submitted.

Details of the town advice follow:

<u>New Permits</u>		<u>Revised Permits</u>	<u>Cancelled Permits</u>
Traffic Signals	26	53	-
Through Ways	2	-	-
Warning Beacons	10	1	-
Isolated Stop Sign	258	8	-
Regulations	339	2	10
Parking Meters	109	-	-
Traffic Signs	35	-	-
Safety Zones	23	-	-
Street Markings	15	-	-

In addition, approval was withheld on 13 stop locations following the usual study.

Highway Planning Survey

The work of the Highway Planning Survey during the fiscal year of 1948 came within the headings of Inventory, Traffic and Statistics.

Inventory

The inventory section prepared and completed route and project reports for twelve locations which contained all the inventory, traffic and accident data required for design and approval for Federal Aid Funds.

A special Federal Aid Route Map was prepared which showed only the Primary and Secondary Systems. The portions of these systems were drawn so as to indicate the part of each which is state highway and the part local road.

A revised log of the Primary Federal Aid System was prepared. Printed copies were sent to Public Roads Administration and distributed within the Department.

Revised manuals of instructions for both road inventory and structures were also prepared.

Local Road Mileage Reports were obtained from each city and town of the work done in 1946. Tables were compiled from these.

Traffic

Monthly and annual traffic report data, obtained from fixed automatic traffic recorders, were compiled.

A special loadometer survey was made for a two-week period at the loadometer station locations. From the data thus obtained, tables were prepared to show the weight loads and size of vehicle information with that of previous years for the purpose of determining the trend in loading practices of commercial vehicles.

An origin and destination survey was made of traffic in So. Framingham, and a report relative to method of handling such traffic was submitted.

Prepared numerous turning movement diagrams of traffic at locations where traffic interchanges are contemplated.

Annual Statistics

Annual reports were prepared on State Highway Income and Expenditures, Motor Vehicle Registrations, Gasoline Gallonage and State Highway Mileage.

Boston Origin and Destination Survey

Completed tables and desire line maps of the Boston Metropolitan Origin and Destination Survey.

Prepared specifications and contracts for consultant engineers to proceed with the development and report of the Master Highway Plan for the Boston Metropolitan Area.

A report was likewise made on the State Highway Needs for the area outside of the Boston Metropolitan area.

These two reports were the basis for the bills pertaining to the \$100,000,000 bond issue.

Worcester Origin and Destination Survey.

Prepared manuals, maps and also necessary preliminary data for the operation of our Origin and Destination Survey of the City of Worcester. The actual survey commenced July 1, 1948.

MATERIALS TESTING LABORATORY

Because of the \$2,000,000 Highway resurfacing program utilizing bituminous concrete and the stepped-up overall construction program, the number of tests made in this fiscal year by the Concrete, Bituminous, Soils and Chemical Sections of the Laboratory has increased considerably over that of any past year.

The new equipment previously purchased was used extensively and the program of investigation and research was carried forward.

- BRIDGES -

During this fiscal year the Department awarded contracts for 36 new structures; awarded contracts for alterations or repairs to 12 structures; examined and reported on one structure at the request of local authorities; made 6 reports at the request of Department authorities; examined plans for 4 structures under the provisions of Chapter 85, Section 35, General Laws; and made preliminary studies, estimates or plans for building, repairing or altering 75 structures in the near future.

The various cities and towns, the locations therein, and the character of the work follow:

CONTRACTS FOR NEW STRUCTURES

Adams	Commercial Street over Hoosic River, one 51-foot steel stringer span.
Blackstone	Main Street over Blackstone Canal and tracks of New York, New Haven and Hartford Railroad; two 80-foot steel stringer spans.
Boston	Dorchester Avenue over Fort Point Channel; 15 spans varying from 19 feet to 25 feet, concrete beam and slab on creosoted timber pile bents.
Braintree	Washington Street over tracks of New York, New Haven and Hartford Railroad; one 85-foot steel through plate girder.
Charlton	Southbridge Road at Station 69+66 over Cady Brook, one 29-foot span concrete rigid frame.
Charlton	Southbridge Road at Station 34+35 over Cady Brook, one 50-foot steel stringer span.
Charlton	Southbridge Road over Ashworth Brook, one 18-foot span concrete box culvert.
Chesterfield	Main Road over Westfield River, two 82-foot steel stringer spans.
Gloucester	Northern Circumferential Highway over Concord Street, one 58-foot steel stringer span.
Gloucester	Crafts Road over Northern Circumferential Highway, one 82-foot steel stringer span.

Gloucester	Northern Circumferential Highway over Marsh Street, one 43-foot steel stringer span.
Gloucester	Northern Circumferential Highway over Essex Avenue, one 64-foot span concrete rigid frame.
Harvard	Mitchelville Bridge over Nashua River, two 65-foot spans and one 80-foot span steel stringers.
Holden	Reservoir Street over tracks of Boston and Maine Railroad; one 30-foot span, one 22-foot span, and one 28-foot span, creosoted timber deck on creosoted timber bents.
Holden	Main Street over Asnebumskit Brook, one 27-foot steel stringer span.
Kingston	Main Street over Plymouth By-Pass, two 58-foot steel stringer spans.
Leominster	Merriam Avenue over Concord-Westminster Highway, two 50-foot steel stringer spans.
Lynnfield	At Wakefield line, Northern Circumferential Highway over Saugus River, one 15-foot span concrete rigid frame.
Lynnfield	Northern Circumferential Highway over Main Street, one 55-foot span concrete rigid frame.
Newburyport	Pedestrian bridge over Newburyport Turnpike, one 67-foot through plate girder span.
North Adams	Beaver Street over Hoosic River, one 85-foot steel stringer span.
Northampton	South Street over tracks of New York, New Haven and Hartford Railroad; one 32-foot and one 63-foot steel stringer spans.
Northampton	South Street over Clarke Avenue, one 39-foot steel stringer span.
Peabody	Newburyport Turnpike over Lowell Street, one 66-foot steel stringer span.

Pittsfield	First Street over tracks of Boston and Albany Railroad, one 49-foot steel stringer span.
Plymouth	Plymouth By-Pass over Samoset Street, two 37-foot and one 53-foot continuous concrete beam and slab spans.
Scituate	Gannett Street, Station 25+43, one 14-foot span concrete box bridge.
Scituate	Gannett Street over Musquashnet River, one 14-foot span concrete box bridge.
South Hadley	Morgan Street over Stony Brook, one 20-foot corrugated iron arch span.
Taunton	Washington Street over Mill River, one 54-foot steel stringer span.
Upton	Mendon Road over Center Brook, two 9-foot spans in a twin concrete box bridge.
Wakefield	Northern Circumferential Highway over Charles Avenue, one 52-foot span concrete rigid frame.
Wakefield	Northern Circumferential Highway over tracks of Boston and Maine Railroad, one 20-foot span concrete rigid frame.
Ware	Boston and Albany Railroad tracks over Palmer Road at Gibbs Crossing, one 81-foot steel through plate girder span.
Wenham	Dodge's Row over Longham Reservoir, one 12-foot span concrete box bridge.
West Bridgewater	Scotland Road over Town River, three 18-foot spans concrete slab deck on creosoted timber pile bents.

CONTRACTS FOR ALTERATIONS OR REPAIRS TO
EXISTING STRUCTURES

Charlton	Sturbridge Road at Station 158+10 over Cady Brook, extension to existing bridge.
Deerfield	Stillwater Bridge over Deerfield River, new floor and repairs to towers on existing suspension bridge.
Fairhaven	At New Bedford line on Auto Route 6 over New Bedford Harbor, reconstruction of deck on draw span.
Hadley	Calvin Coolidge Bridge over Connecticut River, repairs to curbs.

Newburyport	At Salisbury line, reconstruction of deck.
Sheffield	Blodgett's Bridge over Housatonic River, reconstruction of deck.
Shrewsbury	At Worcester line over Lake Quinsigamond, repairs to surface and substructure.
Springfield	At West Springfield line, North End Bridge over Connecticut River; repairs to expansion joints and to deck.
Springfield	At West Springfield line, Memorial Bridge over Connecticut River and over tracks of New York, New Haven and Hartford Railroad; repairs to the section of bridge over the railroad tracks.
Sudbury	At Wayland line, Sherman's Bridge over Sudbury River, replacement of timber pile substructure.
West Bridgewater	West Center Street over Hockamock River, concrete extension of existing arch.
West Springfield	Ashley Avenue Bridge over Connecticut River, repairs to truss system.

EXAMINATION, REPORT AND ESTIMATE AT THE
REQUEST OF LOCAL AUTHORITY

Sheffield	Lower Covered Bridge over Housatonic River.
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EXAMINATIONS, REPORTS AND ESTIMATES AT
THE REQUEST OF THE DEPARTMENT

Boston	Belle Isle Inlet Bridge at Winthrop line.
Everett	Broadway over tracks of Boston and Maine Railroad and Boston and Albany Railroad.
Newburyport	Salisbury Bridge over Merrimack River.
West Boylston	Proposed relocation of Route 140.
	Joint assembly for load transfer units at expansion joints in concrete pavements.
	The use of open steel grid floors on bridge decks.

REVIEW OF PLANS UNDER PROVISIONS OF
CHAPTER 85, SECTION 35, GENERAL LAWS

Fitchburg	Fifth Street Viaduct.
Holyoke	Dwight Street over First Level Canal.
Ipswich	Choate Bridge over Ipswich River.
West Stockbridge	Rockdale Mills Bridge over Williams River.

CONTEMPLATED WORK

Acton	Powder Mill Road over Assabet River.
Adams	Commercial Street over canal.
Alford	West Street over Seekonk River.
Attleboro	South Main Street over New York, New Haven and Hartford Railroad.
Ayer	Main Street over Boston and Maine Railroad.
Bedford	At Carlisle line over Concord River.
Belchertown	Auto Route 202 over Boston and Maine Railroad.
Berlin	West Street over North Brook.
Beverly	At Salem line, repairs to Essex Bridge.
Beverly	Three bridges on Beverly By-Pass.
Boston	Bird Street over New York, New Haven and Hartford Railroad.
Boston	Expressway at airport.
Canton	Washington Street over Forge Pond.
Colrain	White Bridge over North River.
Danvers	Three new bridges on Turnpike.
Deerfield	New bridge over Deerfield River.
Dartmouth	Apponagansett River Bridge repairs.

Easthampton	Northampton Street over Manhan River.
Fall River	At Somerset line, Brightman Street Bridge, new fender pier.
Gloucester	Blynman Bridge, new fender pier.
Gloucester	Washington Street over Goose Cove and Bay View.
Gloucester	Annisquam River Bridge.
Great Barrington	Alford Road over a brook.
Groveland	At Haverhill line, Groveland Bridge over Merrimack River.
Hinsdale	Maple Street over Housatonic River.
Holden	Main Street over Boston and Maine Railroad.
Hubbardston	Worcester Road over Ware River.
Lawrence	Broadway over Spicket River.
Lenox	Three bridges on proposed by-pass.
Leominster	Five bridges on the proposed by-pass.
Leominster	Auto Route 2 over New York, New Haven and Hartford Railroad.
Lincoln	Baker's Bridge over Boston and Maine Railroad.
Lowell	By-Pass over Beaver Brook.
Monroe	Main Road over Dunbar Brook.
Newburyport	At Salisbury line over Merrimack River, Newburyport Bridge, fender pier.
Norton	Auto Route 140 over New York, New Haven and Hartford Railroad.
Palmer	Main Street over Quaboag River.
Pittsfield	Wahconah Street over Housatonic River.
Plymouth	Six bridges on proposed by-pass.
Reading	Four bridges on Auto Route 128 to Wakefield.

Salem	Bridge Street over Boston and Maine Railroad.
Southbridge	Mechanic Street over Quinnebaug River.
Stow	Great Road over Assabet Brook.
Stow	Gleasondale Road over Assabet Brook.
Taunton	Winthrop Street over Mill River.
Upton	Pleasant Street over West River.
Wakefield	Northern Circumferential Highway over Boston and Maine Railroad.
Wellfleet	Highway separation at Long Pond Road.
Westfield	East Main Street over Little River.
Worcester	James Street over Boston and Albany Railroad.

REPORT ON CHAPTER 90 ACTIVITIES
FOR THE FISCAL YEAR ENDING JUNE 30, 1948

The total amount appropriated for the construction of Town and County ways (Chapter 90 work) for the fiscal year ending June 30, 1948, was \$3,000,000.

During the year, the Department has contracted for work to be done in the towns and cities named in the attached table, which table also shows the type of road or nature of work, the length contracted for, and the allotments or contributions of the State, towns, cities and counties.

The attached table represents 544 contracts involving a value in excess of \$6,000,000. Approximately 60% of the total value of work is being done by advertised or unit price contracts and the balance of the work by force account contracts. The State's expenditures on this type of work for the year ending June 30, 1948 amounted to \$2,665,505.52.

CONSTRUCTION OF TOWN AND COUNTY WAYS
(Section 34, Chapter 90, General Laws, Tercentenary Edition)

1948

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road or nature of work, the length contracted for, and the allotments or contributions by the State, towns/cities and counties:

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Barnstable County</u>					
Barnstable	\$15,000.00	\$ 7,500.00	\$ 7,500.00	Bituminous macadam - (widening)	6,410
Bourne	10,000.00	5,000.00	5,000.00	Grading, drainage and surface treatment	7,400
Brewster	1,500.00	750.00	750.00	Bituminous road-mix	1,850
Ghatham	5,000.00	2,500.00	2,500.00	Class F Bituminous Concrete	1,610
Dennis	5,000.00	2,500.00	2,500.00	Bituminous road-mix	1,750
Eastham	2,000.00	1,000.00	1,000.00	Grading and drainage	2,617
Falmouth	10,000.00	5,000.00	5,000.00	Bituminous road-mix	1,880
Falmouth	1,500.00	1,500.00	1,500.00	Maintenance	6,349
Harwich	15,000.00	7,500.00	7,500.00	Class I Bituminous Concrete	4,700
Harwich	1,000.00	1,000.00	1,000.00	Maintenance	10,675
Mashpee	2,000.00	1,000.00	1,000.00	Grading and drainage	2,000
Orleans	5,000.00	2,500.00	2,500.00	Bituminous road-mix Class F Bituminous Concrete	7,910
Sandwich	3,000.00	1,500.00	1,500.00	Grading	1,000
Truro	500.00	250.00	250.00	Bituminous road-mix	2,445
Yarmouth	6,500.00	4,000.00	2,500.00	Bituminous road-mix	1,100
Yarmouth	2,000.00	2,000.00	2,000.00	Maintenance	6,060
					11,515
<u>Berkshire County</u>					
Adams	13,500.00	6,750.00	6,750.00	Class I Bituminous Concrete (widening)	3,334
Adams	400.00	400.00	400.00	Maintenance	6,300
Alford	5,000.00	2,500.00	2,500.00	Bridge and approaches	-
Becket	4,000.00	2,000.00	2,000.00	Bituminous treatment Bituminous treated gravel	2,550
				Gravel	740
Cheshire	4,000.00	2,000.00	2,000.00	Bituminous treated gravel	1,050
				Gravel	1,100
Cheshire	500.00	500.00	500.00	Maintenance	1,025
Clarksburg	4,000.00	2,000.00	2,000.00	Gravel	7,000
Dalton	4,000.00	2,000.00	2,000.00	Bituminous treated gravel	3,228
				Maintenance	6,400
Dalton	400.00	400.00	400.00	Maintenance	7,050
Egremont	3,000.00	1,500.00	1,500.00	Gravel	700
Florida	6,000.00	3,000.00	3,000.00	Gravel	3,150
Great Barrington	14,000.00	7,000.00	7,000.00	Bituminous treated gravel	1,550
Great Barrington	800.00	800.00	800.00	Maintenance	20,100

Counties and Towns

Berkshire County

	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
Hancock	\$ 4,000.00	\$ 2,000.00	\$ 2,000.00	Culvert and approaches - (bituminous treated gravel)	-
Hinsdale	300.00	300.00	300.00	Maintenance	3,500
Lanesborough	5,000.00	2,500.00	2,500.00	Gravel	3,450
Lanesborough	500.00	500.00	500.00	Maintenance	5,050
Lanesborough-					
North Adams	500.00	-	500.00	Maintenance	7,950
Lee	700.00	700.00	700.00	Bridge Repairs	-
Lee	7,500.00	3,750.00	3,750.00	Bituminous treated gravel	2,250
Lenox	10,000.00	5,000.00	5,000.00	Class F Bituminous Concrete	1,428
Lenox	450.00	450.00	450.00	Maintenance	5,707
Monterey	4,000.00	2,000.00	2,000.00	Gravel	1,000
Mount Washington	1,000.00	500.00	500.00	Culverts and approaches	-
New Ashford	1,000.00	500.00	500.00	Gravel	1,300
New Ashford	200.00	200.00	200.00	Maintenance	4,200
New Marlborough	4,000.00	2,000.00	2,000.00	Gravel	4,550
North Adams	14,000.00	7,000.00	7,000.00	Bituminous concrete	3,930
North Adams	4,151.92	2,075.97	2,075.96	Class I Bituminous Concrete	1,280
North Adams	17,000.00	8,500.00	8,500.00	Class I Bituminous Concrete	1,700
Otis	4,000.00	2,000.00	2,000.00	Gravel	1,800
Peru	4,000.00	2,000.00	2,000.00	Gravel	2,550
Peru	600.00	600.00	600.00	Maintenance	16,300
Pittsfield	42,000.00	21,000.00	21,000.00	Bituminous macadam	6,925
Richmond	2,500.00	1,250.00	1,250.00	Gravel	1,550
Sandisfield	5,000.00	2,500.00	2,500.00	Gravel	2,700
Savoy	2,000.00	1,000.00	1,000.00	Gravel	1,000
Sheffield	4,000.00	2,000.00	2,000.00	Gravel	2,450
Stockbridge	8,600.00	4,300.00	4,300.00	Bituminous treated gravel	2,900
Stockbridge	9,500.00	4,750.00	4,750.00	Bituminous treated gravel	2,200
Tyringham	4,000.00	2,000.00	2,000.00	Gravel	2,000
Washington	2,000.00	1,000.00	1,000.00	Gravel	3,600
West Stockbridge	2,000.00	1,000.00	1,000.00	Gravel	1,200
Williamstown	4,000.00	2,000.00	2,000.00	Bituminous treated gravel and gravel	3,900
Williamstown	700.00	700.00	700.00	Maintenance	6,550
Windsor	1,000.00	500.00	500.00	Gravel	350

Bristol County

Attleboro	28,000.00	14,000.00	14,000.00	Class I Bituminous Concrete	2,650
Dartmouth	19,200.00	9,600.00	9,600.00	Class I Bituminous Concrete	1,460
Dartmouth	1,000.00	1,000.00	1,000.00	Maintenance	34,751
Dighton	9,600.00	4,800.00	4,800.00	Bituminous road-mix	2,936
Easton	5,000.00	2,500.00	2,500.00	Bituminous treated gravel	1,450
Easton	1,000.00	1,000.00	1,000.00	Maintenance	38,386
Fall River	20,000.00	10,000.00	10,000.00	Grading and drainage	2,615

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Bristol County</u>					
Freetown	\$ 6,603.32	\$ 3,301.66	\$ 3,301.66	Bituminous road-mix	1,050
Mansfield	16,200.00	8,100.00	8,100.00	Class I Bituminous Concrete	1,230
Mansfield	1,000.00	1,000.00	1,000.00	Maintenance	12,600
Mansfield	1,000.00	1,000.00	1,000.00	Maintenance	24,610
New Bedford	20,000.00	10,000.00	10,000.00	Class I Bituminous Concrete	2,465
North Attleborough	200.00	200.00	200.00	Maintenance	24,255
Norton	3,000.00	1,500.00	1,500.00	Bituminous treated gravel	800
Seekonk	3,400.00	1,700.00	1,700.00	Class I Bituminous Concrete	307
Taunton	15,000.00	7,500.00	7,500.00	Bituminous road-mix	2,837
<u>Dukes County</u>					
Chilmark	8,000.00	4,000.00	4,000.00	Bituminous road-mix	5,623
West Tisbury	3,500.00	1,750.00	1,750.00	Bituminous road-mix	2,850
<u>Essex County</u>					
Andover	1,000.00	2,000.00	-	Maintenance	55,716
Beverly	14,000.00	7,000.00	7,000.00	Bituminous macadam	1,950
Boxford	3,000.00	1,500.00	1,500.00	Bituminous treated gravel	2,650
Danvers	10,000.00	5,000.00	5,000.00	Class I Bituminous Concrete	1,486
Danvers	500.00	1,000.00	-	Maintenance	35,133
Essex	2,500.00	1,250.00	1,250.00	Bituminous road-mix	600
Essex	500.00	1,000.00	-	Maintenance	7,818
Essex	600.00	1,200.00	-	Maintenance	9,072
Georgetown	4,000.00	2,000.00	2,000.00	Bituminous treated gravel	1,210
Georgetown	500.00	1,000.00	-	Maintenance	5,650
Gloucester	20,000.00	10,000.00	10,000.00	Class I Bituminous Concrete	1,583
Groveland	300.00	600.00	-	Maintenance	2,500
Groveland	500.00	1,000.00	-	Maintenance	11,150
Hamilton	3,000.00	1,500.00	1,500.00	Bituminous road-mix	2,596
Hamilton	3,250.00	1,625.00	1,625.00	Class I Bituminous Concrete	850
Hamilton	500.00	1,000.00	-	Maintenance	40,762
Hamilton	500.00	1,000.00	-	Maintenance	49,784
Haverhill	18,250.00	9,125.00	9,125.00	Class I Bituminous Concrete	1,525
Ipswich	12,000.00	6,000.00	6,000.00	Bituminous macadam	2,085
Ipswich	1,000.00	2,000.00	-	Maintenance	49,107
Lawrence	12,000.00	6,000.00	6,000.00	Bituminous macadam	2,225
Lynn	16,000.00	8,000.00	8,000.00	Class I Bituminous Concrete	6,528
Lynnfield	5,000.00	2,500.00	2,500.00	Bituminous macadam	1,000
Lynnfield	5,000.00	2,500.00	2,500.00	Bituminous macadam	860
Lynnfield	1,500.00	750.00	750.00	Drainage	-
Manchester	7,500.00	3,750.00	3,750.00	Class I Bituminous Concrete	2,900

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Essex County</u>					
Manchester	\$ 2,500.00	\$ 1,250.00	\$ 1,250.00	Class I Bituminous Concrete	390
Manchester	500.00	1,000.00	-	Maintenance	24,500
Marblehead	10,000.00	5,000.00	5,000.00	Class I Bituminous Concrete	1,620
Marblehead	500.00	1,000.00	-	Maintenance	20,219
Merrimac	3,000.00	1,500.00	1,500.00	Bituminous treated gravel	675
Methuen	10,000.00	5,000.00	5,000.00	Class I Bituminous Concrete	1,250
Methuen	1,000.00	2,000.00	-	Maintenance	7,590
Middleton	6,200.00	3,100.00	3,100.00	Repairs Bituminous treated gravel	2,300
Nahant	5,000.00	2,500.00	2,500.00	Bituminous macadam	850
Nahant	500.00	1,000.00	-	Maintenance	11,546
Nahant	500.00	1,000.00	-	Maintenance	9,300
Newbury	3,000.00	1,500.00	1,500.00	Bituminous treated gravel	750
Newbury	400.00	800.00	-	Maintenance	5,382
Newburyport	13,750.00	6,875.00	6,875.00	Class I Bituminous Concrete	2,737
North Andover	500.00	1,000.00	-	Maintenance	24,724
Peabody	7,800.00	3,900.00	3,900.00	Bituminous macadam	2,280
Peabody	4,000.00	-	-	(Maintenance) repairs	10,030
Rockport	5,000.00	2,500.00	2,500.00	Class I Bituminous Concrete	1,850
Rockport	500.00	1,000.00	-	Maintenance	24,396
Rowley	4,000.00	2,000.00	2,000.00	Bituminous treated gravel	1,436
Salem	12,000.00	6,000.00	6,000.00	Bituminous macadam	1,150
Salisbury	1,000.00	500.00	500.00	Bituminous macadam	350
Salisbury	1,500.00	3,000.00	-	Maintenance	29,578
Saugus	2,400.00	2,400.00	2,400.00	Bituminous treated gravel	385
Saugus	7,200.00	3,600.00	3,600.00	Bituminous macadam	1,942
Swampscott	9,000.00	4,500.00	4,500.00	Class I Bituminous Concrete	1,290
Topsfield	6,000.00	3,000.00	3,000.00	Bituminous road-mix	1,800
Wenham	8,000.00	4,000.00	4,000.00	Bridge and approaches	-
West Newbury	3,000.00	1,500.00	1,500.00	Bituminous treated gravel	694
West Newbury	3,000.00	1,500.00	1,500.00	Grading	950
<u>Franklin County</u>					
Ashfield	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	2,434
Bernardston	2,000.00	1,000.00	1,000.00	Gravel	1,400
Charlmont	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	850
Colrain	2,750.00	1,375.00	1,375.00	Gravel	700
Conway	3,000.00	2,000.00	1,000.00	Bituminous treated gravel	1,000
Deerfield	4,122.37	4,122.38	4,122.37	Bridge Repairs	-

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Franklin County</u>					
Erving	\$ 2,000.00	\$ 1,000.00	\$ 1,000.00	Gravel	1,600
Erving	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	1,200
Erving	500.00	500.00	500.00	Maintenance	10,982
Erving	500.00	500.00	500.00	Maintenance	3,500
Gill	2,000.00	1,000.00	1,000.00	Bituminous treatment and bituminous treated gravel	2,000
Greenfield	7,250.00	6,250.00	1,000.00	Drainage Class I Bituminous Concrete	675
Greenfield	1,000.00	1,000.00	1,000.00	Maintenance	525
Hawley	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	56,808
Heath	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	600
Leverett	3,000.00	1,500.00	1,500.00	Bituminous treated gravel	2,100
Leyden	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	1,150
Monroe	1,000.00	500.00	500.00	Timber cribbing	1,200
Montague	2,000.00	1,000.00	1,000.00	Class I Bituminous Concrete	400
New Salem	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	575
Northfield	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	2,500
Orange	3,750.00	2,750.00	1,000.00	Bituminous treated gravel	600
Rowe	2,500.00	1,500.00	1,000.00	Bituminous treated gravel	2,200
Shelburne	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	2,800
Shutesbury	1,000.00	500.00	500.00	Bituminous treated gravel	1,200
Shutesbury	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	1,250
Sunderland	4,000.00	2,000.00	2,000.00	Bituminous macadam	1,750
Warwick	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	2,218
Whately	3,000.00	2,000.00	1,000.00	Bituminous treated gravel	1,350
<u>Hampden County</u>					
Agawam	4,000.00	2,000.00	2,000.00	Bituminous macadam	740
Agawam	8,000.00	4,000.00	4,000.00	Bituminous macadam	2,037
Agawam	1,200.00	1,200.00	1,200.00	Maintenance	39,242
Agawam	1,200.00	1,200.00	1,200.00	Maintenance	13,842
Blandford	4,000.00	2,000.00	2,000.00	Gravel	3,700
Blandford	800.00	800.00	800.00	Maintenance	10,000
Brimfield	4,000.00	2,000.00	2,000.00	Bituminous road-mix	2,475
Brimfield	600.00	600.00	600.00	Maintenance	54,318
Chester	4,000.00	2,000.00	2,000.00	Gravel	1,750
Chester	1,000.00	1,000.00	1,000.00	Maintenance	16,100

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Hampden County</u>					
Chicopee	\$25,000.00	\$12,500.00	\$12,500.00	Class I Bituminous Concrete	6,000
East Longmeadow	7,000.00	3,500.00	3,500.00	Bituminous macadam	1,640
Granville	4,000.00	2,000.00	2,000.00	Bituminous macadam	2,015
Granville	7,000.00	3,500.00	3,500.00	Bituminous macadam	2,500
Hampden	1,000.00	500.00	500.00	Bituminous treated gravel	1,000
Hampden	1,500.00	750.00	750.00	Bituminous road-mix	2,595
Holland	2,000.00	1,000.00	1,000.00	Bituminous road-mix	850
Holland	535.00	535.00	535.00	Maintenance	32,317
Longmeadow	50,000.00	25,000.00	25,000.00	Class I Bituminous Concrete	11,140
Longmeadow	1,000.00	1,000.00	1,000.00	Maintenance	16,599
Ludlow	13,200.00	6,600.00	6,600.00	Bituminous macadam	2,300
Monson	200.00	200.00	200.00	Maintenance	19,943
Montgomery	3,875.00	1,000.00	2,125.00	Gravel	1,550
Montgomery	300.00	300.00	300.00	Maintenance	2,450
Palmer	2,000.00	1,000.00	1,000.00	Bituminous macadam	450
Palmer	800.00	400.00	400.00	Drainage	810
Palmer	1,000.00	1,000.00	1,000.00	Maintenance	71,133
Russell	1,500.00	750.00	750.00	Gravel	700
Russell	500.00	500.00	500.00	Maintenance	4,600
Southwick	5,000.00	2,500.00	2,500.00	Bituminous macadam	2,550
Southwick	500.00	500.00	500.00	Maintenance	6,113
Springfield	14,500.00	7,250.00	7,250.00	Class I Bituminous Concrete	1,409
Tolland	5,000.00	2,500.00	2,500.00	Bituminous treated gravel	2,100
Tolland	500.00	500.00	500.00	Maintenance	6,735
Wales	2,000.00	1,000.00	1,000.00	Grading	1,050
Wales	200.00	200.00	200.00	Maintenance	15,700
West Springfield	10,435.00	10,435.00	10,435.00	Bridge Repairs	-
West Springfield	20,000.00	10,000.00	10,000.00	Bituminous macadam	2,329
Westfield	19,000.00	9,500.00	9,500.00	Bituminous macadam	3,434
Wilbraham	6,200.00	3,100.00	3,100.00	Bituminous macadam	1,750

Hampshire County

Amherst	12,500.00	6,250.00	6,250.00	Bituminous macadam	3,675
Amherst	1,000.00	1,000.00	1,000.00	Maintenance	12,507
Belchertown	7,000.00	3,500.00	3,500.00	Bituminous macadam	4,300
Chesterfield	2,000.00	1,000.00	1,000.00	Bituminous treatment	1,275
				Bituminous treated gravel	975
Chesterfield	2,000.00	1,000.00	1,000.00	Gravel and bituminous treated gravel	2,250
Chesterfield	700.00	700.00	700.00	Maintenance	24,350
Cummington	1,000.00	500.00	500.00	Bituminous treatment	725
				Bituminous treated gravel	375
Cummington	1,000.00	500.00	500.00	Bituminous treatment	1,025
				Bituminous treated gravel	350
Cummington	500.00	500.00	500.00	Maintenance	11,750
Easthampton	10,000.00	5,000.00	5,000.00	Bituminous macadam	2,644

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Hampshire County</u>					
Easthampton	\$ 500.00	\$ 500.00	\$ 500.00	Maintenance	3,650
Goshen	1,000.00	500.00	500.00	Bituminous treated gravel	625
Goshen	500.00	500.00	500.00	Maintenance	22,400
Granby	4,000.00	2,000.00	2,000.00	Bituminous treated gravel	3,250
Granby	500.00	500.00	500.00	Maintenance	21,412
Hadley	5,000.00	2,500.00	2,500.00	Drainage	8,280
				Bituminous treated gravel (widening)	4,550
Hadley	500.00	500.00	500.00	Maintenance	10,050
Hatfield	20,000.00	10,000.00	10,000.00	Bituminous macadam	2,425
Huntington	4,000.00	2,000.00	2,000.00	Bituminous treated gravel	1,700
Middlefield	4,000.00	2,000.00	2,000.00	Gravel	1,800
Middlefield	500.00	500.00	500.00	Maintenance	4,800
Northampton	24,000.00	12,000.00	12,000.00	Class I Bituminous Concrete	1,684
Northampton	27,250.00	13,625.00	13,625.00	Class I Bituminous Concrete	1,820
Pelham	3,875.00	1,000.00	2,125.00	Bituminous macadam - (widening)	2,500
Pelham	200.00	200.00	200.00	Maintenance	2,500
Plainfield	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	1,450
Plainfield	750.00	750.00	750.00	Maintenance	38,000
South Hadley	10,000.00	5,000.00	5,000.00	Bridge and approaches - (bituminous treated gravel)	-
South Hadley	500.00	500.00	500.00	Maintenance	21,000
South Hadley	500.00	500.00	500.00	Maintenance	7,419
Southampton	1,000.00	500.00	500.00	Bituminous treatment	1,600
Ware	6,000.00	3,000.00	3,000.00	Bituminous treatment	3,176
				Bituminous treated gravel	2,000
Ware	700.00	700.00	700.00	Maintenance	9,000
Westhampton	1,000.00	1,000.00	1,000.00	Maintenance	19,350
Williamsburg	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	2,000
Williamsburg	500.00	500.00	500.00	Maintenance	11,634
Worthington	4,000.00	2,000.00	2,000.00	Bituminous treated gravel	1,000
Worthington	800.00	800.00	800.00	Maintenance	14,000

Middlesex County

Acton	6,000.00	3,000.00	3,000.00	Bituminous macadam	1,500
Acton	2,000.00	2,000.00	2,000.00	Culvert	-
Acton	300.00	300.00	300.00	Maintenance	99,316
Ashby	3,000.00	1,500.00	3,000.00	Bituminous treated gravel	1,600
Ashby	3,000.00	1,500.00	3,000.00	Bituminous treated gravel	1,800
Ashby	500.00	500.00	500.00	Maintenance	28,075
Ashby	500.00	500.00	500.00	Maintenance	34,775

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Middlesex County</u>					
Ashland	\$ 2,000.00	\$ 1,000.00	\$ 1,000.00	Bituminous road-mix	1,100
Ashland	2,000.00	1,000.00	1,000.00	Bituminous road-mix	1,500
Ashland	5,000.00	2,500.00	2,500.00	Bituminous road-mix	2,000
Ashland	500.00	500.00	500.00	Maintenance	41,906
Ashland	500.00	500.00	500.00	Maintenance	42,872
Ayer	5,000.00	2,500.00	2,500.00	Class I Bituminous Concrete	1,100
Ayer	1,500.00	1,500.00	1,500.00	Maintenance	54,009
Bedford	4,000.00	2,000.00	2,000.00	Grading	500
Bedford	2,000.00	1,000.00	1,000.00	Drainage	-
Bedford	600.00	600.00	600.00	Maintenance	58,934
Bedford	600.00	600.00	600.00	Maintenance	56,734
Belmont	16,195.00	8,097.50	8,097.50	Class I Bituminous Concrete	1,500
Billerica	10,000.00	5,000.00	5,000.00	Class I Bituminous Concrete	2,950
Billerica	3,000.00	1,500.00	1,500.00	Class I Bituminous Concrete	1,600
Billerica	3,000.00	1,500.00	1,500.00	Class I Bituminous Concrete	550
Billerica	2,500.00	2,500.00	2,500.00	Maintenance	105,064
Boxborough	1,000.00	500.00	500.00	Grading	1,200
Boxborough	1,000.00	500.00	500.00	Grading and drainage	700
Boxborough	300.00	300.00	300.00	Maintenance	46,067
Burlington	2,000.00	1,000.00	1,000.00	Drainage and bituminous road-mix	1,200
Cambridge	12,000.00	6,000.00	6,000.00	Class I Bituminous Concrete	3,905
Cambridge	17,000.00	17,000.00	17,000.00	Class I Bituminous Concrete	7,235
Carlisle	4,000.00	2,000.00	2,000.00	Bituminous treated gravel	650
Carlisle	800.00	800.00	800.00	Maintenance	62,710
Carlisle	800.00	800.00	800.00	Maintenance	62,710
Chelmsford	4,500.00	4,500.00	4,500.00	Class I Bituminous Concrete	3,300
Chelmsford	2,500.00	2,500.00	2,500.00	Maintenance	94,486
Concord	1,000.00	1,000.00	1,000.00	Maintenance	83,741
Dracut	6,000.00	3,000.00	3,000.00	Class I Bituminous Concrete	1,800
Dracut	300.00	300.00	300.00	Maintenance	80,022
Dracut	300.00	300.00	300.00	Maintenance	80,022
Dunstable	2,000.00	1,000.00	2,000.00	Bituminous treated gravel	1,200
Dunstable	600.00	-	600.00	Drainage	405
Dunstable	300.00	300.00	300.00	Maintenance	52,434
Everett	20,000.00	10,000.00	10,000.00	Class I Bituminous Concrete	4,307
Framingham	8,000.00	8,000.00	8,000.00	Class I Bituminous Concrete	2,249
Framingham	7,000.00	7,000.00	7,000.00	Class I Bituminous Concrete	1,205
Groton	7,000.00	3,500.00	3,500.00	Bituminous treated gravel	2,500
Groton	300.00	300.00	300.00	Maintenance	22,072
Holliston	2,000.00	1,000.00	1,000.00	Bituminous treated gravel	1,500

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Middlesex County</u>					
Hopkinton	\$ 6,000.00	\$ 3,000.00	\$ 3,000.00	Bituminous road-mix	2,600
Hopkinton	600.00	600.00	600.00	Maintenance	64,220
Hudson	14,000.00	7,000.00	7,000.00	Class I Bituminous Concrete	3,780
Lincoln	2,000.00	1,000.00	1,000.00	Bituminous macadam	500
Lincoln	4,000.00	2,000.00	2,000.00	Bituminous treated gravel	1,500
Lincoln	1,000.00	1,000.00	1,000.00	Maintenance	43,540
Lincoln	1,000.00	1,000.00	1,000.00	Maintenance	45,110
Littleton	3,000.00	1,500.00	1,500.00	Bituminous treated gravel	1,500
Littleton	500.00	500.00	500.00	Maintenance	65,548
Lowell	8,000.00	8,000.00	8,000.00	Class I Bituminous Concrete	1,345
Lowell	15,000.00	7,500.00	7,500.00	Class I Bituminous Concrete	5,400
Malden	9,000.00	4,500.00	4,500.00	Class I Bituminous Concrete	2,977
Malden	20,000.00	10,000.00	10,000.00	Class I Bituminous Concrete	6,000
Marlborough	22,350.00	11,175.00	11,175.00	Class I Bituminous Concrete	1,450
Maynard	1,000.00	1,000.00	1,000.00	Maintenance	39,222
Medford	15,000.00	15,000.00	15,000.00	Bituminous macadam	3,283
Melrose	20,000.00	10,000.00	10,000.00	Class I Bituminous Concrete	5,366
Natick	7,500.00	7,500.00	7,500.00	Bituminous macadam	2,976
Natick	10,000.00	10,000.00	10,000.00	Bituminous macadam	3,543
Natick	1,000.00	1,000.00	1,000.00	Maintenance	71,119
Newton	22,000.00	11,000.00	11,000.00	Concrete masonry wall and widening	540
North Reading	6,000.00	3,000.00	3,000.00	Bituminous treated gravel	1,700
North Reading	400.00	400.00	400.00	Maintenance	48,395
Pepperell	3,000.00	1,500.00	1,500.00	Bituminous treated gravel	400
Pepperell	3,000.00	1,500.00	1,500.00	Bituminous road-mix	1,500
Pepperell	500.00	500.00	500.00	Maintenance	79,652
Pepperell	500.00	500.00	500.00	Maintenance	79,652
Reading	10,000.00	5,000.00	5,000.00	Penolithic pavement	1,600
Sherborn	600.00	-	600.00	Bituminous road-mix	150
Sherborn	500.00	500.00	500.00	Maintenance	23,700
Shirley	6,000.00	3,000.00	3,000.00	Bituminous treated gravel	3,000
Shirley	700.00	700.00	700.00	Maintenance	57,068
Shirley	700.00	700.00	700.00	Maintenance	60,068
Somerville	20,000.00	10,000.00	10,000.00	Class I Bituminous Concrete	8,988
Somerville	25,000.00	12,500.00	12,500.00	Class I Bituminous Concrete	7,150
Stoneham	500.00	500.00	500.00	Maintenance	42,435
Stoneham	500.00	500.00	500.00	Maintenance	42,435
Stow	5,000.00	2,500.00	2,500.00	Bituminous treated gravel	1,600
Stow	700.00	700.00	700.00	Maintenance	44,434

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Middlesex County</u>					
Stow	\$ 700.00	\$ 700.00	\$ 700.00	Maintenance	46,084
Sudbury	2,000.00	1,000.00	1,000.00	Bridge	-
Sudbury	6,000.00	3,000.00	3,000.00	Bituminous treated gravel	1,800
Sudbury	500.00	500.00	500.00	Maintenance	90,580
Tewksbury	7,000.00	3,500.00	3,500.00	Drainage	3,590
				Bituminous treated gravel	800
Tewksbury	300.00	300.00	300.00	Maintenance	73,484
Townsend	5,000.00	2,500.00	2,500.00	Bituminous treated gravel	3,500
Townsend	400.00	400.00	400.00	Maintenance	61,343
Tyngsborough	2,000.00	1,000.00	2,000.00	Bituminous treated gravel	1,500
Tyngsborough	500.00	500.00	500.00	Maintenance	91,726
Wakefield	12,000.00	6,000.00	6,000.00	Class I Bituminous Concrete and bituminous road-mix	3,326
Wakefield	1,700.00	850.00	850.00	Class I Bituminous Concrete	526
Wakefield	500.00	500.00	500.00	Maintenance	51,647
Waltham	25,000.00	12,500.00	12,500.00	Class I Bituminous Concrete	2,050
Watertown	17,000.00	8,500.00	8,500.00	Class I Bituminous Concrete	1,612
Watertown	22,400.00	11,200.00	11,200.00	Class I Bituminous Concrete	3,755
Wayland	14,000.00	7,000.00	7,000.00	Class I Bituminous Concrete	4,765
Wayland	2,000.00	1,000.00	1,000.00	Bridge	-
Wayland	1,000.00	1,000.00	1,000.00	Maintenance	58,207
Westford	4,000.00	2,000.00	2,000.00	Bituminous road-mix	1,600
Westford	500.00	500.00	500.00	Maintenance	148,234
Weston	14,000.00	7,000.00	7,000.00	Bituminous macadam	1,700
Weston	500.00	500.00	500.00	Maintenance	33,189
Wilmington	15,000.00	3,000.00	12,000.00	Bituminous macadam	2,330
Wilmington	1,500.00	1,500.00	1,500.00	Maintenance	54,532
Wilmington	1,500.00	1,500.00	1,500.00	Maintenance	54,532
Winchester	20,000.00	10,000.00	10,000.00	Class I Bituminous Concrete	3,826
Woburn	17,500.00	8,750.00	8,750.00	Class I Bituminous Concrete	7,234

Nantucket County

Nantucket	10,000.00	10,000.00	-	Bituminous road-mix	1,987
Nantucket	2,000.00	2,000.00	-	Maintenance	30,106

Norfolk County

Avon	500.00	500.00	500.00	Maintenance	29,150
Braintree	10,000.00	10,000.00	-	Bituminous treated gravel	1,777
Brookline	30,000.00	39,000.00	-	Sheet asphaltic concrete	3,380

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Norfolk County</u>					
Canton	\$50,000.00	\$50,000.00	\$ -	Class I Bituminous Concrete	3,294
Cohasset	500.00	500.00	500.00	Bridge Repairs	-
Dedham	500.00	500.00	500.00	Maintenance	16,980
Franklin	6,000.00	6,000.00	-	Grading and drainage	1,940
Medfield	25,715.00	6,685.00	10,800.00	Bituminous treated gravel	2,770
Millis	10,000.00	5,000.00	5,000.00	Bituminous road-mix	2,215
Milton	1,000.00	1,000.00	1,000.00	Maintenance	18,200
Norwood	1,000.00	1,000.00	1,000.00	Maintenance	18,540
Sharon	4,500.00	2,250.00	2,250.00	Bituminous treated gravel	2,250
Stoughton	14,000.00	14,000.00	-	Bituminous road-mix	2,175
Weymouth	8,000.00	8,000.00	-	Class I Bituminous Concrete	800
Weymouth	12,000.00	12,000.00	-	Class I Bituminous Concrete	1,530
Weymouth	1,000.00	1,000.00	1,000.00	Maintenance	1,400
Wrentham	5,000.00	5,000.00	-	Bituminous treated gravel	2,150
Wrentham	500.00	500.00	500.00	Maintenance	49,647

Plymouth County

Abington	7,000.00	3,500.00	3,500.00	Class I Bituminous Concrete	1,350
Abington	6,000.00	3,000.00	3,000.00	Grading and drainage	1,505
Abington	1,000.00	1,000.00	1,000.00	Maintenance	2,005
Bridgewater	7,000.00	3,500.00	3,500.00	Grading and drainage	2,950
Bridgewater	2,000.00	2,000.00	2,000.00	Maintenance	37,459
Brockton	7,850.00	7,850.00	5,000.00	Grading and gravel sub- grade and macadam base course	3,280
Carver	6,000.00	3,000.00	3,000.00	Grading	4,283
Duxbury	6,000.00	3,000.00	3,000.00	Grading and drainage	5,100
Duxbury	1,000.00	1,000.00	1,000.00	Maintenance	17,180
East Bridgewater	6,000.00	3,000.00	3,000.00	Grading and drainage	2,356
Halifax	9,000.00	4,500.00	4,500.00	Bituminous concrete	4,029
Hanson	9,000.00	4,500.00	4,500.00	Bituminous road-mix	1,943
Hingham	17,000.00	8,500.00	8,500.00	Class I Bituminous Concrete	1,490
Hull	10,000.00	5,000.00	5,000.00	Class I Bituminous Concrete	3,560
Kingston	5,900.00	2,950.00	2,950.00	Class I Bituminous Concrete	4,800
Kingston	3,500.00	1,750.00	1,750.00	Class I Bituminous Concrete	1,940
Lakeville	6,000.00	3,000.00	3,000.00	Bituminous road-mix	4,333
Lakeville	6,000.00	3,000.00	3,000.00	Bituminous road-mix	4,785
Marion	6,000.00	3,000.00	3,000.00	Bituminous road-mix	5,969
Marshfield	4,000.00	2,000.00	2,000.00	Drainage and bituminous road-mix	5,218
Marshfield	4,000.00	2,000.00	2,000.00	Grading and drainage	2,800
Mattapoisett	4,000.00	2,000.00	2,000.00	Bituminous road-mix	3,807
Mattapoisett	1,000.00	1,000.00	1,000.00	Maintenance	2,613

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Plymouth County</u>					
Middleborough	\$10,000.00	\$ 5,000.00	\$ 5,000.00	Bituminous road-mix	8,500
Norwell	3,000.00	1,500.00	1,500.00	Grading and drainage	4,200
Plymouth	10,000.00	5,000.00	5,000.00	Class I Bituminous Concrete	5,643
Plympton	3,500.00	1,000.00	2,500.00	Bituminous road-mix	9,310
Rochester	3,000.00	1,500.00	1,500.00	Bituminous road-mix Repairs	1,900 2,470
Rochester	4,000.00	2,000.00	2,000.00	Bituminous road-mix	2,470
Rockland	10,000.00	5,000.00	5,000.00	Class I Bituminous Concrete	1,370
Scituate	14,000.00	7,000.00	7,000.00	Bridges	-
Scituate	8,000.00	4,000.00	4,000.00	Class I Bituminous Concrete	1,400
Wareham	18,000.00	9,000.00	9,000.00	Class F Bituminous Concrete	3,075
West Bridgewater	6,000.00	3,000.00	3,000.00	Class I Bituminous Concrete	1,350
West Bridgewater	6,600.00	3,300.00	3,300.00	Bridge and approaches	-
Whitman	10,000.00	5,000.00	5,000.00	Class F Bituminous Concrete	1,040

Suffolk County

Boston	50,000.00	50,000.00	-	Sheet asphaltic concrete	7,956
Boston	50,000.00	50,000.00	-	Sheet asphaltic concrete	5,601

Worcester County

Ashburnham	4,800.00	2,400.00	2,400.00	Drainage	-
Ashburnham	2,000.00	1,000.00	1,000.00	Grading and drainage	450
Ashburnham	550.00	550.00	550.00	Maintenance	48,480
Athol	7,000.00	3,500.00	3,500.00	Bituminous road-mix	5,100
Athol	1,200.00	1,200.00	1,200.00	Maintenance	67,326
Auburn	16,000.00	8,000.00	8,000.00	Class I Bituminous Concrete	3,188
Barre	13,000.00	6,500.00	6,500.00	Bituminous macadam	2,946
Barre	600.00	600.00	600.00	Maintenance	56,453
Berlin	4,000.00	2,000.00	2,000.00	Bituminous macadam	450
Berlin	600.00	600.00	600.00	Maintenance	58,810
Blackstone	5,000.00	2,500.00	2,500.00	Grading and drainage	1,850
Blackstone	750.00	750.00	750.00	Maintenance	67,725
Belton	700.00	700.00	700.00	Maintenance	60,457
Belton	500.00	500.00	500.00	Maintenance	20,099
Belton	2,000.00	2,000.00	2,000.00	Maintenance	60,477
Boylston	6,000.00	3,000.00	3,000.00	Bituminous road-mix	1,750
Boylston	350.00	350.00	350.00	Maintenance	22,979
Boylston	250.00	250.00	250.00	Maintenance	21,229
Brockfield	3,000.00	1,500.00	1,500.00	Grading	800
Brockfield	350.00	350.00	350.00	Maintenance	31,385
Charlton	5,000.00	2,500.00	2,500.00	Bituminous road-mix	2,950
Charlton	800.00	800.00	800.00	Maintenance	65,617
Clinton	12,800.00	6,400.00	6,400.00	Bituminous macadam	1,535
Clinton	10,500.00	5,250.00	5,250.00	Bituminous macadam	1,692
Clinton	900.00	900.00	900.00	Maintenance	36,283
Douglas	750.00	375.00	375.00	Bridge	-

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Worcester County</u>					
Douglas	\$ 1,800.00	\$ 900.00	\$ 900.00	Gravel	850
Douglas	600.00	600.00	600.00	Maintenance	52,942
Dudley	6,000.00	3,000.00	3,000.00	Bituminous road-mix	2,675
East Brookfield	4,000.00	2,000.00	2,000.00	Bituminous road-mix	836
Fitchburg	15,000.00	7,500.00	7,500.00	Class I Bituminous Concrete	3,568
Gardner	8,000.00	4,000.00	4,000.00	Bituminous macadam	3,748
Grafton	5,000.00	2,500.00	2,500.00	Bituminous road-mix	1,790
Grafton	500.00	500.00	500.00	Maintenance	40,438
Hardwick	550.00	550.00	550.00	Maintenance	48,831
Hardwick	500.00	500.00	500.00	Maintenance	38,581
Harvard	11,700.00	2,600.00	6,500.00	Bituminous macadam	2,500
Harvard	13,500.00	3,000.00	7,500.00	Bituminous macadam	1,850
Harvard	1,100.00	1,100.00	1,100.00	Maintenance	80,082
Harvard	1,100.00	1,100.00	1,100.00	Maintenance	80,082
Holden	5,000.00	2,500.00	2,500.00	Bituminous road-mix	1,050
Holden	5,000.00	2,500.00	2,500.00	Drainage	250
				Bituminous road-mix	962
Holden	700.00	700.00	700.00	Maintenance	61,714
Hubbardston	7,000.00	2,900.00	4,100.00	Culverts and bituminous road-mix	435
				Grading	1,300
Hubbardston	1,200.00	1,200.00	1,200.00	Maintenance	82,625
Lancaster	4,350.00	2,175.00	2,175.00	Class I Bituminous Concrete	465
Lancaster	300.00	300.00	300.00	Maintenance	17,940
Lancaster	300.00	300.00	300.00	Maintenance	18,405
Leicester	5,000.00	2,500.00	2,500.00	Bituminous macadam	600
Leicester	600.00	600.00	600.00	Maintenance	55,676
Leominster	14,000.00	7,000.00	7,000.00	Class I Bituminous Concrete	2,380
Lunenburg	7,000.00	3,500.00	3,500.00	Grading	1,403
Lunenburg	600.00	300.00	300.00	Bituminous road-mix	1,402.73
Lunenburg	900.00	900.00	900.00	Maintenance	59,678
Mendon	4,000.00	2,000.00	2,000.00	Culvert and bituminous road-mix	850
Milford	12,000.00	6,000.00	6,000.00	Bituminous macadam	2,130
Milford	1,000.00	1,000.00	1,000.00	Maintenance	62,476
Millbury	9,000.00	4,500.00	4,500.00	Class F Bituminous Concrete	5,226
Millbury	600.00	600.00	600.00	Maintenance	400
Millville	200.00	200.00	200.00	Maintenance	17,907
New Braintree	4,000.00	2,000.00	2,000.00	Bituminous road-mix	1,800
New Braintree	1,000.00	-	1,000.00	Grading and drainage	1,200
New Braintree	1,000.00	1,000.00	1,000.00	Maintenance	58,138
North Brookfield	1,000.00	500.00	500.00	Bituminous road-mix	800
Northborough	4,000.00	2,000.00	2,000.00	Bituminous road-mix	1,000
Northborough	250.00	250.00	250.00	Maintenance	20,392
Northborough	1,150.00	1,150.00	1,150.00	Maintenance	26,108
Northbridge	4,800.00	2,400.00	2,400.00	Bituminous macadam	935
Northbridge	2,000.00	2,000.00	2,000.00	Maintenance	52,059
Oakham	4,000.00	2,000.00	2,000.00	Bituminous road-mix	1,600
Oakham	2,000.00	1,000.00	1,000.00	Bituminous road-mix	1,300
Oakham	700.00	700.00	700.00	Maintenance	61,783
Oxford	4,000.00	2,000.00	2,000.00	Grading	1,600

Counties and Towns	Contributions			Type of Road or Nature of Work	Length con- tracted for (Feet)
	State	Town	County		
<u>Worcester County</u>					
Paxton	\$ 4,000.00	\$ 2,000.00	\$ 2,000.00	Bituminous road-mix	1,675
Paxton	800.00	800.00	800.00	Maintenance	50,050
Paxton	1,100.00	1,100.00	1,100.00	Maintenance	51,725
Petersham	500.00	500.00	500.00	Maintenance	47,831
Phillipston	4,000.00	2,000.00	2,000.00	Bituminous road-mix	1,850
				Grading	1,800
Phillipston	1,800.00	900.00	900.00	Grading and drainage and bituminous road-mix	1,800
Phillipston	800.00	800.00	800.00	Maintenance	70,029
Princeton	4,500.00	2,250.00	2,250.00	Bituminous road-mix	2,250
Princeton	1,300.00	1,300.00	1,300.00	Maintenance	119,448
Royalston	10,125.00	1,000.00	5,875.00	Grading and drainage	13,100
Royalston	700.00	700.00	700.00	Maintenance	64,552
Rutland	4,000.00	2,000.00	2,000.00	Bituminous road-mix	2,550
Rutland	1,100.00	1,100.00	1,100.00	Maintenance	76,665
Shrewsbury	12,000.00	6,000.00	6,000.00	Bituminous macadam	1,780
Shrewsbury	1,000.00	1,000.00	1,000.00	Maintenance	44,586
Southborough	7,000.00	3,500.00	3,500.00	Bituminous macadam	1,225
Southborough	300.00	300.00	300.00	Maintenance	29,776
Southbridge	12,000.00	6,000.00	6,000.00	Bituminous road-mix	3,596
Southbridge	1,100.00	1,100.00	1,100.00	Maintenance	41,041
Spencer	8,000.00	4,000.00	4,000.00	Class I Bituminous Concrete	775
Spencer	600.00	600.00	600.00	Maintenance	51,113
Sterling	4,000.00	2,000.00	2,000.00	Bituminous road-mix	2,000
Sterling	1,200.00	1,200.00	1,200.00	Maintenance	109,423
Sterling	500.00	500.00	500.00	Maintenance	16,530
Sturbridge	3,000.00	1,500.00	1,500.00	Bituminous road-mix	1,900
Sturbridge	2,000.00	1,000.00	1,000.00	Grading and drainage	950
Sturbridge	3,000.00	1,500.00	1,500.00	Bituminous road-mix	1,210
Sturbridge	700.00	700.00	700.00	Bridge maintenance	-
Sutton	5,000.00	2,500.00	2,500.00	Bituminous road-mix	2,000
Sutton	750.00	750.00	750.00	Maintenance	67,289
Templeton	5,000.00	2,500.00	2,500.00	Bituminous road-mix	2,800
Templeton	4,000.00	2,000.00	2,000.00	Bituminous road-mix	6,916
Templeton	800.00	800.00	800.00	Maintenance	70,893
Upton	7,250.00	3,625.00	3,625.00	Bridge and approaches - (bituminous road-mix)	-
Upton	900.00	450.00	450.00	Bridge	-
Upton	450.00	450.00	450.00	Maintenance	41,583
Uxbridge	750.00	375.00	375.00	Culvert	-
Uxbridge	6,000.00	3,000.00	3,000.00	Grading and drainage	2,650
Uxbridge	6,000.00	3,000.00	3,000.00	Grading	2,700
Warren	3,000.00	1,500.00	1,500.00	Bituminous road-mix	1,740
Warren	250.00	250.00	250.00	Maintenance	21,157
Webster	14,000.00	7,000.00	7,000.00	Bituminous road-mix	5,500
Webster	600.00	600.00	600.00	Maintenance	24,286
Webster	300.00	300.00	300.00	Maintenance	27,786
West Boylston	5,000.00	2,500.00	2,500.00	Bituminous macadam	2,271
West Boylston	4,000.00	2,000.00	2,000.00	Bituminous macadam	760
West Boylston	700.00	700.00	700.00	Maintenance	64,659
West Brookfield	1,000.00	1,000.00	1,000.00	Bridge maintenance	-
Westborough	10,000.00	5,000.00	5,000.00	Bituminous road-mix	4,400
Westminster	4,000.00	2,000.00	2,000.00	Grading	2,144
Westminster	600.00	300.00	300.00	Bituminous road-mix	2,144

Counties and Towns

State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
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Worcester County

Westminster	\$ 900.00	\$ 900.00	\$ 900.00	Maintenance	78,891
Winchendon	7,000.00	3,500.00	3,500.00	Grading	7,000
				Bituminous road-mix	8,100
Winchendon	600.00	600.00	600.00	Maintenance	24,419
Worcester	68,000.00	34,000.00	34,000.00	Bridge and approaches	-
Worcester	15,000.00	7,500.00	7,500.00	Grading	4,600

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS
IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81 of the General Laws, Tercentenary
Edition, as amended)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns, including the amount which may be used for snow removal (under the provisions of Chapter 523 of the Acts of 1946).

Counties and Towns	Miles of Road	State	Allotment Town	Maximum Amount for Snow Removal (included in total)
<u>Barnstable County</u>				
Brewster	38	\$ 8,550.00	\$ 4,750.00	\$ 950.00
Dennis	80	18,000.00	10,000.00	2,000.00
Eastham	43	9,675.00	3,225.00	1,075.00
Mashpee	27	6,075.00	2,700.00	675.00
Sandwich	67	15,075.00	6,700.00	1,675.00
Truro	30	6,750.00	3,750.00	750.00
Wellfleet	38	8,550.00	4,750.00	950.00
<u>Berkshire County</u>				
Alford	18	4,050.00	720.00	450.00
Becket	60	13,500.00	2,400.00	1,500.00
Cheshire	43	9,675.00	3,225.00	1,075.00
Clarksburg	14	3,150.00	2,100.00	350.00
Egremont	34	7,650.00	2,550.00	850.00
Florida	44	9,900.00	3,300.00	1,100.00
Hancock	28	6,300.00	1,400.00	700.00
Hinsdale	37	8,325.00	2,775.00	925.00
Lanesborough	44	9,900.00	3,300.00	1,100.00
Monterey	51	11,475.00	2,040.00	1,275.00
Mount Washington	20	4,500.00	500.00	500.00
New Ashford	11	2,475.00	275.00	275.00
New Marlborough	88	19,800.00	3,520.00	2,200.00
Otis	42	9,450.00	1,680.00	1,050.00
Peru	37	8,325.00	555.00	925.00
Richmond	34	7,650.00	2,550.00	850.00
Sandisfield	84	18,900.00	1,260.00	2,100.00
Savoy	57	12,825.00	855.00	1,425.00
Sheffield	79	17,775.00	3,950.00	1,975.00
Tyringham	25	5,625.00	1,250.00	625.00
Washington	52	11,700.00	780.00	1,300.00
West Stockbridge	34	7,650.00	3,400.00	850.00
Windsor	65	14,625.00	975.00	1,625.00
<u>Bristol County</u>				
Berkley	42	9,450.00	3,150.00	1,050.00
Dighton	46	10,350.00	6,900.00	1,150.00
Freetown	46	10,350.00	3,450.00	1,150.00
Norton	58	13,050.00	5,800.00	1,450.00
Raynham	46	10,350.00	4,600.00	1,150.00
Rehoboth	110	24,750.00	8,250.00	2,750.00
Swansea	64	14,400.00	9,600.00	1,600.00

Counties and Towns

Miles
of Road

Allotment
State Town

Maximum Amount
for Snow Removal
(included in total)

Hampden County

Wales	25	\$ 5,625.00	\$ 1,000.00	\$ 625.00
Wilbraham	46	10,350.00	6,900.00	1,150.00

Hampshire County

Belchertown	103	23,175.00	4,120.00	2,575.00
Chesterfield	58	13,050.00	1,450.00	1,450.00
Cummington	49	11,025.00	1,225.00	1,225.00
Goshen	29	6,525.00	1,160.00	725.00
Granby	49	11,025.00	2,450.00	1,225.00
Hadley	58	13,050.00	7,250.00	1,450.00
Hatfield	50	11,250.00	7,500.00	1,250.00
Huntington	38	8,550.00	2,850.00	950.00
Middlefield	41	9,225.00	615.00	1,025.00
Pelham	20	4,500.00	2,000.00	500.00
Plainfield	48	10,800.00	720.00	1,200.00
Southampton	56	12,600.00	2,800.00	1,400.00
Westhampton	46	10,350.00	690.00	1,150.00
Williamsburg	42	9,450.00	3,150.00	1,050.00
Worthington	68	15,300.00	1,700.00	1,700.00

Middlesex County

Acton	57	12,825.00	8,550.00	1,425.00
Ashby	58	13,050.00	2,900.00	1,450.00
Ashland	40	9,000.00	6,000.00	1,000.00
Bedford	42	9,450.00	6,300.00	1,050.00
Boxborough	23	5,175.00	920.00	575.00
Burlington	41	9,225.00	6,150.00	1,025.00
Carlisle	41	9,225.00	3,075.00	1,025.00
Dracut	74	16,650.00	11,100.00	1,850.00
Dunstable	37	8,325.00	925.00	925.00
Groton	75	16,875.00	11,250.00	1,875.00
Holliston	51	11,475.00	7,650.00	1,275.00
Hopkinton	67	15,075.00	8,375.00	1,675.00
Littleton	41	9,225.00	6,150.00	1,025.00
North Reading	37	8,325.00	5,550.00	925.00
Pepperell	69	15,525.00	6,900.00	1,725.00
Sherborn	43	9,675.00	6,450.00	1,075.00
Shirley	46	10,350.00	5,750.00	1,150.00
Stow	42	9,450.00	3,150.00	1,050.00
Sudbury	63	14,175.00	9,450.00	1,575.00
Tewksbury	65	14,625.00	9,750.00	1,625.00
Townsend	71	15,975.00	5,325.00	1,775.00
Tyngsborough	42	9,450.00	3,150.00	1,050.00
Westford	81	18,225.00	10,125.00	2,025.00

Norfolk County

Bellingham	49	11,025.00	6,125.00	1,225.00
Medfield	41	9,225.00	6,150.00	1,025.00
Medway	45	10,125.00	6,750.00	1,125.00
Millis	42	9,450.00	6,300.00	1,050.00
Norfolk	41	9,225.00	4,100.00	1,025.00
Plainville	33	7,425.00	4,125.00	825.00

Counties and Towns	Miles of Road	State	Allotment Town	Maximum Amount for Snow Removal (included in total)
<u>Plymouth County</u>				
Carver	65	\$14,625.00	\$ 6,500.00	\$1,625.00
Halifax	36	8,100.00	3,600.00	900.00
Hanson	38	8,550.00	5,700.00	950.00
Lakeville	43	9,675.00	4,300.00	1,075.00
Norwell	47	10,575.00	5,875.00	1,175.00
Pembroke	48	10,800.00	7,200.00	1,200.00
Plympton	31	6,975.00	2,325.00	775.00
Rochester	51	11,475.00	3,825.00	1,275.00
<u>Worcester County</u>				
Ashburnham	77	17,325.00	5,775.00	1,925.00
Barre	98	22,050.00	7,350.00	2,450.00
Berlin	40	9,000.00	3,000.00	1,000.00
Blackstone	36	8,100.00	5,400.00	900.00
Bolton	52	11,700.00	2,600.00	1,300.00
Boylston	33	7,425.00	2,475.00	825.00
Brookfield	35	7,875.00	3,500.00	875.00
Charlton	110	24,750.00	5,500.00	2,750.00
Douglas	71	15,975.00	5,325.00	1,775.00
Dudley	65	14,625.00	9,750.00	1,625.00
East Brookfield	19	4,275.00	2,375.00	475.00
Grafton	71	15,975.00	10,650.00	1,775.00
Hardwick	85	19,125.00	4,250.00	2,125.00
Harvard	57	12,825.00	5,700.00	1,425.00
Holden	80	18,000.00	10,000.00	2,000.00
Hubbardston	76	17,100.00	1,900.00	1,900.00
Lancaster	52	11,700.00	6,500.00	1,300.00
Leicester	68	15,300.00	8,500.00	1,700.00
Lunenburg	72	16,200.00	5,400.00	1,800.00
Mendon	36	8,100.00	3,600.00	900.00
Millville	17	3,825.00	2,125.00	425.00
New Braintree	51	11,475.00	1,275.00	1,275.00
North Brookfield	68	15,300.00	6,800.00	1,700.00
Northborough	50	11,250.00	6,250.00	1,250.00
Oakham	44	9,900.00	1,100.00	1,100.00
Oxford	66	14,850.00	8,250.00	1,650.00
Paxton	28	6,300.00	2,800.00	700.00
Petersham	66	14,850.00	3,300.00	1,650.00
Phillipston	44	9,900.00	660.00	1,100.00
Princeton	73	16,425.00	2,920.00	1,825.00
Royalston	73	16,425.00	1,825.00	1,825.00
Rutland	60	13,500.00	4,500.00	1,500.00
Southborough	47	10,575.00	7,050.00	1,175.00
Spencer	100	22,500.00	12,500.00	2,500.00
Sterling	72	16,200.00	5,400.00	1,800.00
Sturbridge	72	16,200.00	5,400.00	1,800.00
Sutton	86	19,350.00	6,450.00	2,150.00
Templeton	64	14,400.00	8,000.00	1,600.00
Upton	59	13,275.00	4,425.00	1,475.00
Warren	69	15,525.00	6,900.00	1,725.00
West Boylston	37	8,325.00	5,550.00	925.00
West Brookfield	52	11,700.00	3,900.00	1,300.00
Westborough	63	14,175.00	9,450.00	1,575.00
Westminster	80	18,000.00	6,000.00	2,000.00

GENERAL MAINTENANCE

General maintenance, including repairs to road surfaces, maintenance of shoulders and slopes, cleaning ditches and drainage structures, repairs to fences and guard rail, mowing grassed areas and clearing roadsides was carried on by maintenance forces during the year.

Surface treatments were applied to about 180 miles of State highway surface during the year. This work was done with Maintenance forces except for about 19 miles done under contract.

The mileage of State highways under Maintenance listed according to type of surface as of January 1, 1948 is as follows:-

Cement Concrete	38.877
Reinforced Cement Concrete	287.986
Sheet Cement Concrete	14.398
Dual	54.966
Bituminous Macadam Asphalt	974.725
" " Penolithic	33.949
" " Tar	95.543
Bituminous Concrete Type "A"	199.692
" " " "D"	22.250
" " " "I"	68.359
Waterbound	76.846
Gravel	26.665
Granite Block	1.879
Road Mix Asphalt	6.550
Road Mix Tar	27.646
Brick	0.818
Miscellaneous	11.014
Total	1942.163

Maintenance betterment projects consisted primarily of drainage installations, and a number of bad drainage conditions were corrected throughout the state and especially in the Cape Cod area during the year. This work was done principally with Maintenance forces although contracts were let in some instances, notably for drainage systems in Falmouth, Harwich, and Yarmouth.

A number of miscellaneous projects including resurfacing, guard rail installation, grading, construction of traffic islands and center plot openings, curb installation, shoulder hardening and construction of walls were also done under this program. The largest of these was a resurfacing project done under contract in Lakeville.

REGULATORY PERMITS

During the fiscal year of 1948, 3317 permit applications were investigated and approved.

Eighteen hundred of the above total were applications for miscellaneous permits including driveways, sidewalks, grading, public utilities (sewer, water and gas connections, electric power, light telephone and telegraph poles), trimming trees, etc.

The balance of permits investigated (1517) and approved were for movements over the State highways of loads exceeding the legal limits in weight, length or width including the movement of 286 buildings.

Approximately 50 permit applications were rejected due to either improper equipment or because they would cause undue inconvenience to the general public.

SNOW REMOVAL

Snow removal on State highways was carried out under authority of Section 19, Chapter 81 of the General Laws, as amended.

During the 1948 fiscal year the Department plowed and sanded 1864 miles of State highways.

Snow removal on town roads was carried out under authority of Section 11, Chapter 54 of the General Laws and during the fiscal year the Department cooperated on 443 miles of highways. Under this Act the highways selected were plowed in cooperation with the towns and part of the cost was borne by local agencies.

According to weather bureau statistics the 1948 winter was the worst since 1873 and it was necessary to request a deficiency appropriation to take care of the abnormal expenditures.

ROADSIDE DEVELOPMENT

During the year 1948 the roadsides were sprayed with two applications of D.D.T. to control the Dutch elm disease on the elm trees on State highways. The first application was applied during the month of May and the second application was applied during the month of July. The D.D.T. was applied with blower type equipment that enabled us to cover the entire highway system very rapidly.

More trees were planted along the highways in 1948 and the slope planting was completed in Revere on Route C-1 to prevent soil erosion on a large slope.

Tree trimming was done in Norfolk County, this work consisted of trimming all trees on the State highways in that county and the work was done by contract.

Planting of Dogwood, Mountain Laurel, Azaleas and Flowering Crabs on Auto Route 1 was completed as a Memorial to Veterans of World War II. These plants were donated by the Federation of Garden Clubs of Massachusetts.

Snow Removal
at 25¢/mile

CHAPTER 81

6.7 x 10⁴ Program
at 22.5¢/mile

Under Chapter 81, Sections 26-29 of the General Laws as amended by Chapter 366, Acts of 1934; Chapter 689, Acts of 1945; and Chapter 523, Acts of 1946, 180 towns with a total of 9144 miles of public ways participated in this program during the calendar years ending December 31, 1947. The allotments under this program were included in the budget for the fiscal year ending June 30, 1947.

During the calendar year ending December 31, 1948, 180 towns with a total of 9161 miles public ways will have participated in this program. The allotments totaling \$2,061,225.00 under this program were included in the budget for the fiscal year ending June 30, 1948.

During the calendar year ending December 31, 1947, 20 towns took advantage of Chapter 523, Acts of 1946 and expended \$13,491.25 for snow removal.

CAPITAL OUTLAY

The Maintenance Division was allotted \$614,000 for Capital purchases but due to the fact that the depreciation was not set up prior to June 30, there was only about \$462,000 available in the fiscal year.

Most of the money was allotted for the replacement of passenger cars, pickup trucks, and snow removal units leaving only a small amount for machinery and additional equipment.

Again this year we were allotted less than half of the amount requested and it was not possible to bring our equipment up to date with these limited funds.

Furthermore, with the increased cost of labor it would appear advisable to purchase machinery to perform operations previously done by hand labor.

BRIDGE MAINTENANCE AND OPERATION

Organization and equipping of District Bridge Maintenance crews has proceeded somewhat slower than planned. However, it has been possible to carry out a considerably expanded program of special maintenance as well as emergency repairs with Department personnel. Painting and repairs to structural steel, repairs to concrete, surfacing of roadways and channel clearance made up the majority of projects carried on by Force Account.

Maintenance and betterment contracts let during the year together with a short description of the work are listed below:

Beverly-Salem	Electrical Repairs
Boston-Dorchester Avenue	Machinery Repairs
Buckland-Charlemont	Painting
Erving-Gill	Painting
Westfield - 2 bridges	Painting
Greenfield-Gill	Painting
Lowell	Painting
Quincy-Weymouth	Underwater inspection
Beverly-Salem	Underwater inspection
Springfield-West Springfield 2 bridges	Underwater inspection

In addition to these there were several Bridge Division projects which included items covering major repairs and maintenance details.

The following tabulation of openings of the thirteen regularly manned drawbridges is submitted:

<u>City or Town</u>	<u>Name</u>	
Beverly-Salem	Essex	332
Boston	Dorchester Avenue	370
Boston-Milton	Granite Avenue	227
Cambridge	Commercial Avenue	1485
Cambridge	First Street	1371
Fall River-Somerset	Brightman Street	1182
Fall River-Somerset	Slades Ferry	2160
Gloucester	Blynman	6492
Groveland-Haverhill		7
Lynn-Saugus	Fox Hill	995
New Bedford-Fairhaven		978
Newburyport-Salisbury		105
Quincy-Weymouth	Fore River	535

GENERAL EDWARD LAWRENCE LOGAN AIRPORT
EAST BOSTON
CONSTRUCTION
LEGISLATION

Chapter 676, Acts of 1947, approved on July 1, 1947, authorized a bond issue of \$12,000,000. for the further enlargement, extension, improvement and development of General Edward Lawrence Logan Airport.

This act also authorized and directed the Massachusetts Public Building Commission to complete the plans and specifications for the Apron and Central Buildings.

This act further provided for the construction of not more than 18 airline stations in the Apron Building.

Status of Airport Development.

The construction of Logan Airport has followed a master plan, which was developed after a study of the potential air traffic.

The following is a resume of the major contracts awarded for the development of Logan Airport.

Apron Building.

The Plans and Specifications for the construction of the Apron Building, Airline Stations 8 to 23 inclusive, as prepared by Thompson & Lichtner Company, for the Massachusetts Public Building Commission, were approved by the Department on November 25, 1947.

The foundations for the Apron Building, Stations 6 to 23 inclusive, consisting of concrete piles and reinforced concrete foundation caps are being installed by the New England Foundation Company under Contract #986.

The Apron Building, Airline Stations 8 to 23, including all mechanical trades, heating, electricity, lighting, ventilating, plumbing, and sprinklers is under construction by J. F. Fitzgerald Construction Company, under Contract #992, awarded on April 12, 1948.

The building will be reinforced concrete flat slab construction with aluminum doors and windows.

The Airlin Stations will be approximately forty four feet wide and one hundred and fifty feet long with an enclosed corridor for passengers on the street side and glass shields opposite exit doors on the field side.

A spectator walkway or gallery is to be constructed on the roof of the building which will be accessible by stairways from the first floor. Each station will contain open space for airline offices, toilets and electrical, mechanical and heating equipment rooms. Heating will be in general provided by unit heaters. Fluorescent lighting will be provided in the general office areas.

Central Building Foundations--Lines #4 and #5.

Due to the fact that part of the field end of the proposed Central Building overlaps a part of the Apron Building, it is necessary that the foundations for this portion of the Central Building be installed before the erection of the Apron Building. Contract No. 1027 was awarded on April 12, 1948 to Tredennick-Billings Company for the construction of steel encased cast-in-place concrete piles in this area.

Heating Plant.

Contract #991 with J. A. Singarella Company, awarded on February 16, 1948 provides for the construction of the Heating Plant. This contract includes the construction of the building and the installation of steam boilers, hot water converters for hot water heating supply to the Apron Building, emergency steam turbine generator to supply electricity in case of a failure in the Edison supply, and all appurtenant equipment. This plant, as being constructed, will provide space for future boilers and expansion as required.

Construction of 24 Inch Water Main from Porter to Prescott Street and a 16 Inch Main to Terminal Area.

Contract #1032 with C. Reppucci and Sons awarded on April 20, 1948, provides the first stage of the proposed water supply system for the Airport.

The origin of the supply is the existing City of Boston twenty four inch line in Porter Street, where a connection is to be made in the vicinity of Orleans Street; from

this point a 24 inch supply line will be installed following future service roads and the highway median strips to Prescott Street and the proposed location of the future pumping station and tanks.

From a point about halfway on this line, a 16 inch line is to extend to the connection point for the Terminal Area which is being installed under Contract #990.

This work was designed by Coffin and Richardson, Consulting engineers under Contract #943.

Water Connection to Terminal Building.

The construction of an 8 inch water supply line from an existing water supply service near the southerly part of the Airport to the nearest point in the proposed Apron Building was done under Contract #1018, by M. De Matteo Construction Company.

This work was undertaken at this time in order to supply water to the Terminal Area as soon as practicable in advance of the large water mains intended for this area. This connection will be used as an auxiliary water supply after the large mains are in operation.

Water Distribution System--Terminal Area.

The construction of the water distribution system for the Terminal Buildings Area to the extent required for Airline Stations 8 to 23 is provided for in Contract #990, with M. De Matteo Construction Company, which was awarded on February 3, 1948.

This water distribution system starts at a point northerly of the proposed traffic circle near the heating plant with a 16 inch main which will extend as a loop of 12 inch pipe around the rear of the Apron Building from Airline Station 8 to 23 where it is to be connected to a 16 inch feeder to be located southerly of the traffic circle.

Sanitary and Storm Sewers in Terminal Area.

V. Barletta Company, under Contract #989 is constructing the sanitary and storm sewers for the Terminal Buildings Area to the extent required for Airline Stations 8 to 23.

The main sanitary, sewers for buildings in this area are included in this contract, these sewers will terminate at a point of connection with the main outfall sewer, which is under construction under Contract #996. The storm sewers to be constructed will take

care of all surface drainage from the roadways, parking and other areas within the central terminal area.

Main Sanitary Sewer Connection.

The main sanitary sewer of 24 inch diameter reinforced concrete pipe, approximately 3200 feet in length, between the Terminal Area and the existing city sanitary sewer in Orleans Street is under construction by George M. Byrne, under Contract #996. This sewer was designed by Hayden, Harding and Buchanan, Consulting Engineers, under Contract #954.

Drainage Outside of Terminal Area.

Contract #983, with M. & R. Construction Company, provides for the construction of a 60 inch diameter reinforced concrete drainage conduit, as an interrupting drain for the easterly half of the north hangar area. This conduit will receive drainage from large adjacent areas to be occupied in part by hangar aprons, roadways, and parking and other areas in the terminal group. The drain connects to an existing City of Boston drain in Porter Street.

M. & R. Construction Company, under Contract #1021, is also constructing a system of drains with a tide gate chamber outlet near the south bulkhead, in order to provide surface drainage from the area south of the Terminal Area.

Hayden, Harding & Buchanan, Consulting Engineers, designed and prepared the plans and specifications for both of these contracts.

Runways and Taxiways.

Parallel "C" Runway--Extension Basic Fill.

Contract #951, with Savin Construction Company, provided for the placing of Governor's Island till as embankment for extending Parallel "C" runway for a distance of 3000 feet.

A total of 1,200,000 cubic yards of material was handled under this contract.

Partial Construction. Taxiways and Parts of Runways.

Contract #958, with B. Perini & Sons Inc. awarded on January 27, 1947 for the partial permanent construction of Taxiway 1, South Taxiway, and portions of Runways

Parallel "A" and "C" was completed. This work included excavating, grading, drainage, gravel, sub-base, electrical conduits and miscellaneous other work.

Runway Surfacing. Taxiways and Parts of Runways.

Under Contract #969 with B. Perini & Sons Inc. the permanent construction of runway Parallel "C" from its southerly end, northward to a point beyond its intersection with Parallel "A" has been completed. This provides a permanent runway 7,200 feet in length. The Federal Government, through the Civil Aeronautics Administration, built the base course on a portion of this runway.

The Central Taxiway (Taxiway #1) extending from the future terminal apron area to the intersection of Runways "A" and "B", a distance of about 4,400 feet, was completed.

The South Taxiway from the southeasterly part of the future terminal apron towards the southerly end of Runway Parallel "C" on former Governor's Island was completed, this distance is about 3000 feet.

Also a portion of Runway "A" was completed, namely a center strip 125 feet wide, extending easterly from Runway "C" to an intersection with Runway Parallel "C", a distance of 1,400 feet, to serve as a taxiway between these two runways until the full width is required as a part of the future Runway Parallel "A".

Runway and Taxiway Lighting.

The installation of permanent field lighting for Runways "A", "B" and "C" and Associated Taxiways, has continued under Contract #909, with William Gens & Sons, Inc. This work consists of the construction of an electric substation, duct banks, manholes and handholes, installation of wiring and Bartow High Intensity lights, taxiway lights, red cross and green arrow signals.

Contract #1014, with the same contractor provides for the installation of similar lights on Runway Parallel "C" and Associated Taxiways.

Until the work under these contracts is completed, temporary Army surplus lights of low wattage are in use.

The design, plans and specifications for runway and taxiway lighting were prepared by Eugene Groden, Consulting Engineer.

Extension of East Bulkhead Taxiway.

To provide an approach from the East Bulkhead Taxiway to the North Hangar Area and the Temporary Terminal Building, gravel fill was placed under Contract #1026, with Parkway Construction Company.

Resurfacing Portion of Runway "C".

Contract #1046 was awarded to Charles Callahan Company on June 22, 1948, for resurfacing certain portions of Runway "C" where the temporary gravel surface has broken.

North Hangar Area.

The North Hangar Area has been developed under Contract #978, with B. Perini and Sons Inc. The work done under this contract consisted of placing gravel fill, drainage and a bituminous concrete base course. This large apron has been put to use by planes in front of the Northeast Airlines hangar.

Gravel Fill and Paving in Apron Area.

The construction of the foundations for the permanent apron building of the terminal group prevented the further use of the temporary taxiways as access and egress to the Temporary Terminal Building, so Contract #982, was awarded to M. De Matteo Construction Company, for the placing of gravel base as foundation for and the surfacing of a by-pass taxiway, and gravel fill on the proposed apron area in front of the proposed Apron Building.

Obstruction Lighting.

Suitable marker lights have been installed on certain obstructions adjacent to the approaches to the Airport. These obstruction lights have been placed on the Winthrop Water Tower, Winthrop, and on the stack on the Fish Pier at South Boston, and stacks of the power plant of the Boston Elevated Railway, South Boston.

The obstruction lights, consisting of flashing beacons and fixed lights, are designed to comply with the requirements of the Civil Aeronautics Administration and have received the official approval of that Authority.

Wooden Control Tower.

Conforming with the requirements of the Civil Aeronautics Administration, to provide

a more satisfactory point of control nearer to the runways than the control tower at the Administration Building, a wooden control tower, similar to the type used by the Army was constructed under Contract #980 by Wexler Construction Company. This tower, about 51 feet high, is near the intersection of Runways "C" and "A" Electrical lighting and communication systems for this tower, as well as toilet facilities, locker and instrument rooms, are also provided. The tower was placed in service on January 23, 1948.

Crash Equipment Building.

In order to house the crash equipment in a location easily accessible to the runways, Contract #998, was awarded to Wexler Construction Company for the construction of a corrugated steel building.

Aircraft Rescue Boat.

A regulation U. S. Navy Crash Boat has been purchased from surplus stock of the U. S. Maritime Commission. This boat is a 63 foot craft powered by two 600 horsepower engines, giving a top speed of about 40 knots per hour.

Contract #1003 with Reid's Shipyard Inc., for reconditioning this boat, included the replacement of all defective hull woodwork, installation of new copper sheathing, painting of hull from water line to rails, replacing of canvas on main deck and other miscellaneous work.

Riprap Bank Protection.

J. F. White Contracting Company, under Contract #1011, is placing riprap bank protection at the southerly ends of Parallel Runways "C" and "B" near the southwesterly side of Governor's Island. The stone used for this work was obtained from the removal of old Fort Winthrop on Governor's Island.

Consulting Services.

Coffin and Richardson, Consulting Engineers, are employed under Contract #943, on the design, preparation of plans and specifications and field supervision on the water supply system outside the Terminal Area.

Hayden, Harding and Buchanan, Consulting Engineers, under Contract #954, are

designing, preparing plans and specifications and providing field supervision on the sewerage and drainage system outside the Terminal Area.

Mr. Eugene Groden, Electrical Engineer, is under contract to design, prepare plans and specifications and perform some field inspection work on the runway and taxiway lighting systems.

Under Contract #1029, Thompson and Lichtner Company is making a study with recommendations for the determination of a proper basis of charges for rentals, landing fees, and other services provided by the Commonwealth at the Airport.

The Thompson and Lichtner Company, who under the supervision and direction of the Massachusetts Public Building Commission have prepared the designs, plans and specifications for the Apron and Central Buildings, Heating Plant and all facilities and utilities in the Terminal Area, have also been retained as Consulting Engineers on the construction of these buildings and facilities.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS AND IN FORCE DURING THE YEAR ENDING
JUNE 30, 1948, COVERING WORK AT THE GENERAL EDWARD LAWRENCE LOGAN AIRPORT, EAST BOSTON.

<u>CONTRACT NO.</u>	<u>WORK</u>	<u>CONTRACTOR</u>	<u>DATE</u>	<u>CONDITION OF WORK</u>	<u>CONTRACT COST</u>
830	Consulting services on runway construction	William L. Shannon	May 2 1945	Completed Dec 1 1946	\$ 1,809.38
837	Consulting services on runway embankments	Arthur Casagrande	Jun 26 1945	In progress	
868	Architectural services on Temporary Terminal Building	Charles G Loring	Nov. 27 1945	Completed Jun 23 1948	7,200.37
901	Placing fill at hangar sites	B Ferini and Sons, Inc.	Jul 3 1946	Completed Jul 29 1947	643,875.90
909	Installing lighting on runways A, B, C and associated taxiways	William Gene and Son, Inc.	Mar 26 1947	In progress	
930	Alterations and additions to Temporary Terminal Building and the old Administration Building	Grande and Sons, Inc.	Oct 2 1946	Completed Jun 1 1947	48,118.00
943	Consulting services for design of water supply system	Coffin and Richardson, Inc.	Sep 25 1946	In progress	
950	Consulting services on lighting system for Runways A, B, C and associated taxiways	Eugene Groden	Oct 2 1946	Completed Sep 23 1947	4,362.50
951	Construction of an extension of Runway Parallel C	Savin Construction Co.	Jan 22 1947	Completed Oct 10 1947	675,257.08
954	Consulting services on sewerage and drainage systems	Rayden, Harding and Buchanan	Oct 15 1946	In progress	
958	Partial permanent construction of Taxiway I, South Taxiway and portions of Runway Parallel A and Parallel C	B. Ferini and Sons, Inc.	Jan 27 1947	Completed Aug 7 1947	1,069,673.36

<u>CONTRACT NO.</u>	<u>WORK</u>	<u>CONTRACTOR</u>	<u>DATE</u>	<u>CONDITION OF WORK</u>	<u>CONTRACT COST</u>
966	Placing of obstruction lights on Boston Elevated Railway Company stacks, South Boston	B.A. Robbins Electric Co.	Jul 3 1947	In progress	
969	Constructing Runway Parallel C, a portion of Parallel A, Taxiway A, Taxiway I, Taxiway B, and Taxiway C and South Taxiway	B. Perini and Sons, Inc.	May 29 1947	Completed Dec 5 1947	678,908.62
974	Obstruction lights on Winthrop Water Tower, Winthrop	Kenworthy & Taylor, Inc.	Aug 21 1947	Completed April 30 1948	2,800.80
978	Placing gravel fill, paving, drainage and water service in North Hanger area	B. Perini and Sons, Inc.	Jul 25 1947	Completed Dec. 5 1947	443,293.51
980	New wooden control tower with appurtenant structures	Wexler Construction Co., Inc.	Aug 5 1947	Completed Jan 22 1948	26,185.42
982	Unclassified excavation, gravel fill and temporary paving	M DeMatteo Construction Company	Aug 12 1947	Completed Jun 30 1948	759,311.78
983	Drainage conduit and connections from North Hanger Area to Porter Street Drain	M & R Construction Co.	Sep 3 1947	In progress	
984	Obstruction lights on Fish Pier Stack, South Boston	David A. Robbins Electric Company	Oct 15 1947	Completed Apr 23 1948	3,061.85
986	Foundations for Apron Building, Stations 6-23, incl.	New England Foundation Company, Inc.	Oct 27 1947	In progress	
989	Sanitary and storm sewers, Airline Stations 8-23, incl.	V. Barletta Co.	Jan 16 1948	In progress	
990	Construction of water distribution system, Airline Stations 8-23, incl.	M. DeMatteo Construction Company	Feb 3, 1948	In progress	
991	Heating Plant	J.A. Singerella Company	Feb 16 1948	In progress	

<u>CONTRACT NO.</u>	<u>NAME</u>	<u>SUB-ITEMS</u>	<u>DATE</u>	<u>CONDITION OF WORK</u>	<u>CONTRACT COST</u>
992	Apron Building, Airline Stations 8 through 23	J.F. Fitzgerald Construction Company	Apr 12 1948	In progress	\$
993	Removing, furnishing and erecting a chain link fence and gates	F. J. Binn and Company	Nov 3 1947	Completed Dec 16 1947	2,260.41
994	To furnish a motor truck scale	Fairbanks Morse Company	Sep 25 1947	Completed May 7 1948	2,715.00
996	Sanitary sewer connections	George M. Bryne	Oct 15 1947	In progress	
998	Crash Equipment Building	Seidler Construction, Company Inc.	Apr 22 1948	In progress	
999	Professional services	Charles G. Loring	Sep 19 1947	In progress	
1003	Conditioning one aircraft rescue boat for use at airport	Reid's Shipyard, Inc.	Oct 23 1947	Completed Mar 10 1948	4,347.00
1004	Seeding a section of shoulder on runway 1	R. Forini and Sons, Inc.	Oct 31 1947	Completed Dec 1 1947	3,206.52
1009	Consultant services	Thompson and Lichtner Co., Inc.	Oct 23 1947	Completed Apr 20 1948	7,962.50
1010	Engineering services	Eugene Groden	Jul 15 1947	Completed May 24, 1948	5,718.75
1011	Gravel bank protection at Parallel Runways C and E	J.F. White Contracting Company	Jan. 7 1948	In progress	
1012	Scale pit and scale house	M. DeMatteo Construction Company	Jan. 7 1948	Completed May 7 1948	4,186.11
1014	Runway lighting system for runway Parallel C and associated taxiways	William Gans and Son Company	Jan 20 1948	In progress	
1018	Temporary water connection, Terminal Building	M. DeMatteo Construction Company	Jan 7 1948	Completed Jun 22 1948	8,178.39

<u>NO.</u>	<u>WORK</u>	<u>CONTRACTOR</u>	<u>DATE</u>	<u>OF WORK</u>	<u>COST</u>
1021	Surface drains south of Terminal area	M & R Construction Co.	Apr 7 1948	In progress	\$
1022	Furnishing, installing, removing, overhauling and reinstalling water meters and related work thereto	P H Donoghue Company	Apr 20 1948	In progress	
1025	Assistant to the Commissioners on certain airport matters	Edward F McGrath, Jr.	Jan 7 1948	In progress	
1026	Extension of East Bulkhead Taxiway	James H. Mohan as Parkway Construction Co.	Apr 20 1948	Completed Jun 27 1948	59,387.23
1027	Foundations for Central Bldg.	Tredennick-Billings Co.	Apr 12 1948	In progress	
1029	Study and recommendation for determining proper basis for rentals etc.	Thompson & Lichtner Co. Inc.	Jan 13 1948	In progress	
1032	Water mains	C Repucci and Sons	Apr 20 1948	In progress	
1033	Wash borings on approach road locations	Charles A Leary	Mar 23 1948	Completed Apr 21 1948	1,063.78
1034	Additional parking area	M DeMatteo Construction Company	Apr 7 1948	Completed May 29 1948	5,636.45
1036	Furnishing and erecting steel office partitions on 2nd floor of Administration Building	E F Hauserman Company	Mar 23 1948	Completed Jun 1 1948	1,865.00
1037	Consulting services	Eugene Groden	Mar 2 1948	Completed Sep 23 1947	3,700.00
1046	Resurfacing section of Runway C with bituminous treated gravel surface	Charles Callahan Co.	Jun 22 1948	In progress	
1047	Engineering services	Eugene Groden	May 25 1948	In progress	
1048	Engineering services	Thompson & Lichtner Company, Inc.	Jun 16 1948	Completed Jun 23 1948	19,442.78

DIVISION OF WATERWAYS
RIVERS, HARBORS, TIDE WATERS AND FORESHORES
OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$150,000.00 was made during 1948, with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements, at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$50,000.00 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the department during the year for surveys and improvements in the following localities: Barnstable shore, Barnstable; Brewster shore; Kitchen Brook, Cheshire; Dennis shore, Dennis; Menauhant, Falmouth Inner Harbor, Maravista and Falmouth Heights, Falmouth; Gloucester Inner Harbor, Gloucester; Witchmere Harbor, Allens Harbor, Pleasant Bay and Herring River, Harwich; Nantucket Harbor, Nantucket; Manomet Point, Ellisville, Plymouth Harbor and White Horse Beach, Plymouth; Sandwich Harbor, Sandwich; Surfside and First Cliff, Scituate; Pamet Harbor, Truro.

Information relating to work previously done in various rivers and harbors of the commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the commonwealth, and

certain appropriations and expenditures by the federal government.

An account of work done between July 1, 1947 and June 30, 1948 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

BARNSTABLE

Hearing was held February 25, 1948, on petition of the selectmen for shore protective work at Hawes Avenue, South Hyannis; reconstruction of groin system along Squaw Island Road, Hyannisport; dredging entrance channel, East Bay; dredging at Maraspin Creek; reconstruction of east and west bay jetties at Nianno Beach; shore protective work along Dowses Beach.

The dredging in West Bay and Cotuit Harbor under contract No. 975 of June 10, 1947 with the North Atlantic Dredging Company was completed July 18, 1947, at a contract cost of \$34,320.00.

A contract (No. 1016) was made on February 9, 1948, with the American Hydraulic Dredging Company for dredging in Maraspin Creek, at a contract price of \$.90 for each cubic yard dredged by hydraulic method and disposed of, and \$20.00 for each cubic yard of boulders over one cubic yard in volume removed and disposed of. The work was completed May 28, 1948, at a contract cost of \$16,200.00.

A table showing cost of determined reimbursements under chapter 734 of the acts of 1945 and chapter 500 of the acts of 1947, to shore owners in the town of Barnstable for hurricane damage, totaling \$168,674.11 was approved and forwarded to the town authorities on November 13, 1947.

BARNSTABLE COUNTY

On May 25, 1948 the department agreed to approve the payment of twenty-eight per cent of the reimbursement cost which totaled about \$79,636.36, and to approve the list of claimants and proposed individual payments submitted on shore protective work by individuals in Barnstable County, authorized under chapter 734 of the acts of 1945 and chapter 500 of the acts of 1947.

HEDFORD

On April 6, 1948, a contract (No.1035) was made with the Frank DiSense Company for constructing a drainage ditch in the Shawsheen River and Elm Brook, at a contract price of \$.58 a cubic yard for earth excavation and disposal; \$10.00 for rock excavation and disposal; \$20.00 for each tree removed, and for clearing and grubbing, \$300.00 for each acre. This work is now in progress.

BOURNE

A contract (No.1019) was made on February 9, 1948 with John Gallo, for construction and repair of jetties at Sagamore Beach, at a contract price of \$3.50 for each ton of 2,000 pounds of stone furnished and placed; \$400.00 for removal, stacking and relaying of existing stone in jetties; \$10.00 an hour for rental of one bulldozer. This work was completed on March 30, 1948, at a contract cost of \$13,671.17.

BREWSTER

Hearing was held February 25, 1948 on petition of the selectmen for the construction of one groin at Linnells Landing, or one or two groins near Baylis and Thorndike estates.

CAPE COD LANDING PIER

The work under contract No. 977, dated June 24, 1947, with John Gallo, for repairs made to the fender system, was completed on January 27, 1948, at a contract cost of \$5,400.00.

The use of this pier was given to the Massachusetts Maritime Academy on October 6, 1947, pending suitable legislation for the transfer of the pier to the academy by the department of public works.

CHATHAM

A contract (No.997) was made on October 28, 1947 with the American Hydraulic Dredging Company for dredging in Aunt Lydias Cove, at a contract price of \$.79½

for each cubic yard of material dredged by the hydraulic method and disposed of, and \$20.00 for each cubic yard of boulders over 1 cubic yard removed and disposed of. This work was completed March 6, 1948, at a contract cost of \$14,088.19.

CHESHIRE

A petition of the citizens of Cheshire was denied, for improving Kitchen Brook, as there were no funds available.

CONWAY

A contract (No.1038) was made on March 30, 1948 with the Warner Brothers, Inc., for relocating a portion of the South River, at a contract price of \$100.00 per acre for clearing and grubbing; \$1.00 a cubic yard for Class A rock excavation; \$.75 a cubic yard for channel excavation, and \$6.00 a cubic yard for rock fill, complete in place. This work was completed May 24, 1948, at a contract cost of \$2,461.00.

DENNIS SHORE

Hearing was held February 25, 1948 on the petition of the selectmen for the construction of a groin on land of Cody DeVries and Reeinstierna, and on land of Hayward Forth.

DENNIS-YARMOUTH Bass River

On October 27, 1947, a contract (No.1000) was made with F.V.Lawrence, for jetty construction, at a cost of \$500.00 for removal and disposal of timber piles and old concrete wall in existing easterly jetty and \$3.44 for each ton of stone furnished and placed. This work was completed April 14, 1948, at a contract cost of \$55,714.08.

DUXBURY

The sea wall constructed under contract No. 960, dated February 25, 1947, with Thomas Brothers, was completed September 15, 1947, at a contract cost of \$61,254.15.

FAIRHAVEN

Report was filed with the legislature on chapter 54 of the resolves of the current year providing for an investigation of the improvement of Fairhaven Harbor by a special commission established under said chapter.

FALL RIVER

On October 1, 1947, the commissioners agreed to purchase the Fall River Pier property of the New York, New Haven and Hartford Railroad, for the sum of \$250,000.00, with the understanding that the Fall River Line Pier, Inc., will provide for amortisation of the difference, in the sum of \$118,000.00, between the department appraisal of this property and the amount to be paid by the department for the same.

On May 17, 1948, the commissioners signed an agreement and lease with the Fall River Line Pier, Inc., covering the building of a modern pier and facilities in Fall River and leasing to said company of the premises, etc.

December 30, 1947.

ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC WORKS RELATIVE TO THE IMPROVEMENT OF THE FACILITIES FOR MARITIME COMMERCE IN THE PORT OF FALL RIVER.

To His Excellency, Robert F. Bradford,
Governor of the Commonwealth of Massachusetts,
and The Honorable Senate and House of Representatives,
State House, Boston.

The Department of Public Works hereby reports its action under Chapter 665 of the Acts of 1945 which authorizes the improvement of the facility for maritime commerce in the port of Fall River, and provides for a bond issue of \$1,500,000 to cover the cost of the project. The expiration date of the act was continued to July 1, 1948 by Chapter 308 of the Acts of 1947. The act is not effective until one or more contracts have been negotiated for leasing the facilities authorized. The minimum requirements of the lease as to payments thereunder are to be at a rate sufficient to amortize sixty per cent of the cost to the Commonwealth of the facilities leased within a period not exceeding twenty years.

No contract has as yet been completed.

During the past year those interested in this improvement of Fall River Harbor have formed the Fall River Line Pier, Inc., authorized to enter into the lease of the improvement with the department.

Tentative agreement has been reached that the corporation will lease for twenty years the improvement, the rental to be on a sliding scale starting with the sum of \$24,000 per year for the first two years while the facility is under construction and then increasing for the balance of the term so that the total will be sufficient to amortize the cost to the Commonwealth over the twenty-year period, the actual amount to depend on the cost.

The site on which these improvements are to be made is owned by the New York, New Haven and Hartford Railroad (the old Fall River Line). Negotiations for the purchase of the property have been completed and the Railroad has agreed to accept \$250,000 for the land and existing structures located thereon. The Railroad further proposes to lease from the corporation the area with tracks and sheds which it is now using for the period of ten years at a rental of \$24,000 per year.

The department believes that these conditions meet the requirements of the statutes and properly protect the interests of the Commonwealth. It is expected that the agreement will be completed within the next thirty days.

No legislation is recommended.

Amount expended during the year. None.

Total expenditure to December 1st, 1947. \$4,014.90.

Respectfully submitted,

DEPARTMENT OF PUBLIC WORKS

W H Buracker

Commissioner.

George G Hyland

Ralph A Palladino

Associate Commissioners.

FALMOUTH

Hearing was held on February 25, 1948, on petitions of the selectmen for construction of six groins at Menauhant; reconstruction of west jetty and extension of stone dike from east jetty to Grant Avenue, Falmouth Inner Harbor; construction of two jetties at pond opening at Green Pond; construction of three groins at Maravista, Falmouth Heights.

A contract (No.979) was made on July 15, 1947 with F.V.Lawrence, for constructing stone jetties at Wild Harbor, at a contract price of \$3.72 for each ton of 2,000 pounds of stone furnished and placed. This work was completed October 10, 1947, at a contract cost of \$8,972.64.

A contract (No.1020) was made January 6, 1948, with Turner and Bravogel, Inc.,

for repairing jetties near the entrance to Salt Pond, at a contract price of \$3.39 for each ton of stone furnished and placed, and \$95.00 for removal and relaying of all stone in existing jetties and removal and disposal of section of existing timber bulkhead at No. 1 jetty site. This work was completed June 18, 1948, at a contract cost of \$12,485.45.

GLOUCESTER

Hearing was held on February 25, 1948 on petition of the Mayor for dredging the inner harbor and for sea wall repairs.

A contract (No.1006) was made on December 2, 1947, with Farina Brothers, for making additions to the cold storage building at the state fish pier, at a contract price of \$212,416.00. This work is in progress.

A contract (No.1007) was made on December 2, 1947, with the York Corporation, for furnishing and installing additional equipment in the cold storage building at the state fish pier, at a contract price of \$105,287.00. This work is in progress.

On September 5, 1947, an agreement was approved by the Commissioners with the Gloucester Community Pier Association, Inc. reaffirming the agreement made October 10, 1945, for the construction of certain additions to the freezer building and its facilities at the state fish pier, under chapter 653 of the acts of 1945 and chapter 663 of the acts of 1947.

Hearing was held in Gloucester on June 1, 1948, in the evening, on the construction of dehydrating plants on the state fish pier.

HARWICH Allens Harbor

Hearing was held on February 25, 1948, on petition of the selectmen for dredging.

The work under contract No. 963, dated March 18, 1947, with John Galle, for shore protective work westerly of Allens Harbor, was completed August 19, 1947, at a contract cost of \$5,700.00.

HARWICH SHORE

Hearing was held on February 25, 1948 on the petition of the selectmen for shore protective work at Harwich.

A contract (No.1002) was made on December 16, 1947, with Turner and Breivogel, Inc., for jetty repairs on the Harwich shore, at a contract price of \$4.32 for each ton of stone furnished and placed at jetty No. 1; \$3.80 for each ton of stone furnished and placed at jetty No. 2; \$250.00 for removing all stone in existing jetty at site of jetty No. 2; \$4.77 for each ton of stone furnished and placed at Round Cove jetty and \$350.00 for removing all stone in existing jetty at Round Cove. The work was completed April 15, 1948, at a contract cost of \$6,735.81.

EAST HARWICH

Hearing was held on February 25, 1948, on the petition of the selectmen for dredging.

WEST HARWICH

Hearing was held February 25, 1948 on the petition of the parties at interest for dredging the entrance channel at Herring River and requesting that a survey be made and an estimate given to install tide gates at the mouth of said river.

WITCHAMERE HARBOR- HARWICH

Hearing was held February 25, 1948, on the petition of the selectmen for dredging.

A contract (No.981) was made on August 22, 1947, with John Gallo for channel excavation and jetty repairs, at a contract price of \$.55 for each cubic yard of material excavated from the channel and disposed of; \$2.80 for each cubic yard of riprap removed and replaced; \$6.50 for each ton of stone riprap furnished and placed, and \$25.00 for cutting off and disposing of each pile as specified. The work was completed April 16, 1948, at a contract cost of \$4,525.80.

IPSWICH

A contract (No.1040) was made on May 26, 1948, with Henry W. Merry, for placing a stone riprap mound at Little Neck, at a contract price of \$3.25 for each cubic yard of beach stone gathered and placed; \$6.00 for each ton of new stone furnished and placed and \$1.00 for each cubic yard of ordinary borrow furnished and placed. This work is in progress.

MANCHESTER

The shore protective work at Singing Beach under contract No. 961, dated February 19, 1947, with Larcourt, Inc. is in progress.

MARSHFIELD

On the wall repairs and sea wall construction under Contract No. 962, dated February 19, 1947, with Fred J. Wallace Company, Inc., the work was completed September 29, 1947, at a contract cost of \$30,004.94.

A contract (No.1008) was made on November 12, 1947, with John Kitson, for reconstruction of the westerly jetty at Green Harbor, at a contract price of \$7,400.00 for removal and relaying of existing stone; \$3.90 for each ton of large stone furnished and placed, and \$3.90 for each ton of stone chips furnished and placed. The work was completed July 14, 1948, at a contract cost of \$18,069.15.

NANTUCKET

Hearing was held on February 25, 1948 relative to redredging a channel and enlarging basin.

NEW BEDFORD STATE PIER

Under contract No. 940, dated May 21, 1947, with John Kitson, for placing fill at the pier, work was completed December 10, 1947, at a contract cost of \$45,367.20.

Under contract No. 941, dated December 6, 1946, with Merritt-Chapman and Scott Corporation, for state pier development, work was completed November 5, 1947, at a contract cost of \$301,364.27.

On December 9, 1947, a contract (No.995) was made with Elliot and Watrous, Inc. for additional pier development, at a contract price of \$2.50 for each cubic yard of material dredged; \$100.00 for each cubic yard of boulders over 1 cubic yard in volume removed; \$1.00 for each cubic yard of gravel furnished and placed; \$70.00 for each creosoted pile (30-34 feet in length) furnished and driven; \$80.00 for each creosoted pile (35-39 feet in length) furnished and driven; \$90.00 for each creosoted pile (40-44 feet in length) furnished and driven; \$100.00 for each creosoted pile (45-49 feet in length) furnished and driven; \$100.00 for each creosoted pile (50-54 feet in length) furnished and driven; \$100.00 for each creosoted pile (55-59 feet in length) furnished and driven; \$10.00 for each pile straightened; \$300.00 for each thousand feet (board measure) of creosoted timber furnished and set in place; \$20.00 for each cubic yard of concrete masonry class "A" furnished and placed; \$15.00 for each cubic yard of concrete masonry class "C" furnished and placed; \$.05 for each pound of steel reinforcement rods and miscellaneous iron furnished and placed; \$100.00 for each bollard post furnished and set in wharf platform; \$4.00 for each ton of riprap removed from existing walls and placed on slope of fill; \$2.00 for each ton of new riprap furnished and placed; and \$40.00 for each pile removed from freight shed foundation and disposed of. This work is now in progress.

On January 27, 1948, a contract (No.1024) was made with Simensen and Fernandes, for moving freight shed and storing it at the pier, at a contract price of \$6,000.00. This project was completed April 23, 1948, at a contract cost of \$6,000.00.

Supplement No. 1 to original New Bedford tariff was approved March 2, 1948, to be effective March 24, 1948, which increases the free time from 24 hours to 5 days before a ship arrives, and for 5 days after the loading is completed. Charges are also fixed for merchandise remaining beyond the 5-day period.

OAK BLUFFS

The dredging in Lake Anthony, under contract No. 976, dated June 24, 1947, with the American Hydraulic Dredging Company, was completed on September 14, 1947, at a contract cost of \$5,490.00.

A contract (No.1015) was made on December 16, 1947, with Turner and Breivogel, Inc., for placing riprap, slope paving and filling at Atlantic Avenue, at a contract price of \$3.90 for each ton of stone and chips furnished and placed, and \$.60 for each cubic yard of ordinary borrow furnished and placed. The work was completed February 6, 1948, at a contract cost of \$6,499.50.

PLYMOUTH

Hearing was held February 25, 1948 on petition of the selectmen for sea wall repairs on Water Street and bank revetment from Tripp breakwater south 3 or 4 hundred linear feet to Manomet Point; breakwater repairs at Ellisville; work near the state pier in the harbor, and construction of groins at White Horse Beach.

Approval was given the project for river and harbor improvement in Plymouth, authorized by special act of the legislature, and surveys and studies were authorized.

The state pier has been used for the docking of the vessels of the Nantasket Boat Line and the Wilson Line of Massachusetts, Inc. during the summer season.

A contract (No.1042) was made on June 18, 1948, with the Bay State Dredging and Contracting Company, for dredging in the harbor, at a contract price of \$1.21 for each cubic yard dredged and disposed of, and \$30.00 for each cubic yard of boulders removed and disposed of. This work is in progress.

The work of shore protection at Warrens Cove, under contract No. 946, dated January 6, 1947, with F. V. Lawrence, was completed August 7, 1947, at a contract cost of \$24,038.48.

PROVINCETOWN

A contract (No.1013) was made April 26, 1948, with the American Hydraulic

Dredging Company, for dredging in Provincetown Harbor, at a contract price of \$1.28-1/2 for each cubic yard of material dredged by the hydraulic method and disposed of, and \$20.00 for each cubic yard of boulders over 1 cubic yard in volume, removed and disposed of. This work is in progress.

A lease dated July 30, 1947 was signed, granting to the town of Provincetown, through its airport commission, a parcel of land on the Province Lands for an airport, for a period of 20 years.

Chapter 314 of the acts of 1947 authorized the department to sell a parcel of land on Commercial Street, which was acquired by the Provincetown Tercentenary Commission in 1925, to the Knights of Columbus, Walter Welsh Council, for the sum of \$1,250.00, with the provision that the purchaser may extend its building up to within 5 feet of the water drain on said land.

PROVINCE LANDS

By chapter 470 of the acts of 1893, the Board of Harbor and Land Commissioners was given general care and supervision of an area containing about 3810 acres, known as the Province Lands at Provincetown.

During the year the maintenance crew worked on the following projects:

Collected and planted various types of grass and shrubs on both the inside and outside slopes of the sand dike at Race Run for the prevention of erosion.

Constructed picket and brush and catching barriers on Atlantic Ocean shore to rebuild breaks in coastal dune.

Constructed additional combination fire stop and truck trail through wooded area and maintained and improved existing trails of the same type.

Worked over brushland giving it silvicultural treatment for conversion purposes and burning all browntail moth nests and pitch pine needle miners found as well as painting with creosote all gypsy moth egg clusters encountered.

Maintained historical sites in Eastham, Truro and Provincetown, and supervised the maintenance of bathing beaches, parks and roadsides.

Patrolled the "Lands" for forest fires throughout the summer season and during

the greatest fire hazard periods in late autumn and early spring.

SANDWICH

Hearing was held on February 25, 1948 on the petition of the selectmen and other parties at interest, for groin construction.

Approval was given the harbor improvement project in Sandwich, authorized by special act of the legislature and the necessary studies and surveys authorized.

Bids were called for on dredging in Sandwich Harbor and only one bid was received which was rejected by the department. The check in amount of \$9,700.00 contributed by the town toward the cost of this work was returned to the town officials.

SCITUATE

Hearing was held on February 25, 1948 on the petition of the selectmen for the construction of a riprap mound at First Cliff; also for repairs to the sea wall at North Scituate.

Under contract No. 929 dated September 18, 1946, with Vincent Cairra, for repairing the sea wall at Surfside Beach, the work was completed July 14, 1947, at a contract cost of \$24,651.89.

TISBURY

A contract (No.1023) was made on March 9, 1948, with Turner and Breivogel, Inc. for jetty construction at West Chop, at a contract price of \$5.47 for each ton of stone furnished and placed, and \$300.00 for the removal and relaying of all stone in existing jetty. This work is in progress.

TRURO

Hearing was held on February 25, 1948, on petition of the Pamet Harbor Commission of the town for a survey and an estimate of cost for the improvement of the harbor entrance.

YARMOUTH

A hearing was held on February 25, 1948, on petition of the selectmen, for the reconstruction of the groin system at town beach, Parkers Neck.

A letter contract, dated June 9, 1948, was given to Earl Fox to remove an obstruction in the Bass River Channel, at a cost of \$50.00.

Contract No. 1000 was made with F. V. Lawrence on October 27, 1947, for jetty construction, at a cost of \$500.00 for the removal and disposal of timber piles and old concrete wall in existing easterly jetty, and \$3.44 for each ton of stone furnished and placed. The work was completed April 14, 1948, at a contract cost of \$55,714.08.

MISCELLANEOUS

Great Ponds

Jurisdiction of great ponds belonging to the Commonwealth was given to the Board of Harbor and Land Commissioners by chapter 318 of the acts of 1888. This act pertains to ponds containing in their natural state ^{ten or} more than ten acres of land. Authority to sell or convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the state in great ponds was given later by chapter 379 of the acts of 1904, now section 2 of chapter 91 of the general laws.

During the year the department has considered matters relating to:

Big Alum Pond, Sturbridge; Indian Head Pond, Hanson; Lake Anthony, Oak Bluffs; Lead Mine Pond, Sturbridge; Little Alum Pond, Brimfield; Little Sandy Pond, Pembroke; Long Pond, Centerville, Barnstable; Long Pond, Dracut; Oyster Pond, Chatham; Quannapowitt Lake, Wakefield; Sampsons Pond, Carver; Smelt Pond, Kingston; Sought For Pond, Westford; Snipatuit Pond, Rochester; Spectacle Pond, Lancaster; Spy Pond, Arlington; Whalom Lake, Leominster; Whitmans Pond, Weymouth; White Pond, Concord; Winthrop Lake, Holliston.

Access to Great Ponds

Approval was given the report of the Joint Board, and the bill to the legislature as submitted for a right of way to Little Alum Pond in the town of Brimfield, which right of way is to be laid out by the County Commissioners.

The plan was approved showing the right of way to Great Lake or Big Pond in the town of Otis.

The plan was approved and forwarded to the County Commissioners on the right of way to Little Pond in the town of Sherborn.

Approval was given the report of the Joint Board, and the bill to the legislature as submitted on the right of way to Lead Mine Pond and Alum Pond, in the town of Sturbridge.

UNITED STATES GEOLOGICAL SURVEY

Agreements were made between the Department and the Federal government for cooperative studies, as follows; continuing the work to June 30, 1948:

Topographic surveys- with an appropriation of \$7,500.00 by each agency

Ground water studies-with an appropriation of \$9,500.00 by each agency

Geology and mineral
resources- with an appropriation of \$18,000.00^{*} by each agency

Surface water resources-with an appropriation of \$15,000.00 by each agency

* of this amount, \$2,500.00 is used for geophysical investigations
and \$1,000.00 additional has been allotted for this
work- the amount being transferred from
the topographic survey appropriation.

WARE

Under chapter 37 of the resolves of 1947 on flood control protection along a portion of the Ware River, a special report to the legislature by the Joint Commission, consisting of the Department of Public Works and the Metropolitan District Commission, was filed with the legislature.

The New England Interstate Water Pollution Control Compact, June, 1947, was executed by the Governors of Connecticut, Rhode Island, members of the State Planning Board of Massachusetts, Commissioners of the Metropolitan District Commission, Department of Conservation, Department of Public Health and Department of Public Works, under chapter 278 of the acts of 1936 and chapter 421 of the acts of 1947.

A boundary line was agreed upon by the Department of Public Works and the Port of Boston Authority defining the jurisdiction of said departments at the Boston and Maine Railroad tracks, as shown in blue and marked "A-B" on photostats of license plans Nos. 1400 and 1491 on the area between Bennington Street and Chelsea Creek.

LICENSES AND PERMITS

During the period from July 1, 1947 to June 30, 1948, the Department has granted 91 licenses for work to be done in tide water, great ponds, Connecticut River and Merrimack River, and in rivers and streams under the provisions of section 6 of Chapter 513 of the Acts of 1939. The Department has also granted 61 permits for miscellaneous purposes and approved 26 permits issued by municipal authorities for the construction and maintenance of fish weirs in tide water.

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for the improvement of rivers and harbors in Massachusetts from the establishment of the Government to the close of the fiscal year ending June 30, 1948, are shown in the following tables furnished by the Chief of Engineers, U.S. Army:

TABLE NO. 1 -- Localities at which work was done during the Fiscal Year ending June 30, 1948:

<u>LOCALITY</u>	<u>APPROPRIATIONS</u>	<u>EXPENDITURES</u>
Essex River	\$ 81,809 (1)	\$ 81,809
Nystic River	966,380	965,625
Boston Harbor	18,647,794	18,594,404
Weymouth Fore River	1,080,195 (2)	1,080,195
Town River	369,147 (3)	368,997
Cape Cod Canal	40,853,329	40,808,420
Harbor of Refuge at Nantucket	844,584	775,084
Cuttyhunk Harbor	63,641 (4)	63,641
	<hr/>	<hr/>
TOTAL	\$62,906,879	\$62,738,175

(1) Exclusive of \$ 5,000 contributed funds

(2) Exclusive of \$100,000 contributed funds

(3) Exclusive of \$111,762.76 contributed funds

(4) Exclusive of \$ 11,643.37 contributed funds

TABLE NO. 2 -- Localities at which no work was done during the Fiscal Year ending June 30, 1948:

<u>LOCALITY</u>	<u>APPROPRIATIONS</u>	<u>EXPENDITURES</u>
Edgartown Harbor	\$ 45,614 (1)	\$ 45,614
Vineyard Haven Harbor	82,573	82,573
Newburyport Harbor	755,330	755,330
Merrimack River	517,752	517,752
Ipswich River	5,618	5,618
Sandy Bay, Cape Ann	1,941,478	1,941,478
Rockport Harbor	91,229	91,229
Gloucester Harbor & Annisquam River	664,305	664,305
Manchester Harbor	23,986	23,986
Beverly Harbor	246,690 (2)	246,690
Salem Harbor	107,957	107,957
Marblehead Harbor	584	584
Winthrop Harbor	8,993	8,993
Malden River	149,950 (3)	149,950
Dorchester Bay and Neponset River	128,176	128,176
Buzzards Bay (Weepecket Rock)	2,500	2,500
Hingham Harbor	38,317	38,317
Cohasset Harbor	10,000	10,000
Scituate Harbor	313,818	313,818
Duxbury Harbor	37,000	37,000
Kingston Harbor	8,940	8,940
Wareham Harbor	95,997	95,997
Wellfleet Harbor	11,350	11,350
Provincetown Harbor	389,582	389,582
Hyannis Harbor	224,450	224,450
Little Harbor, Woods Hole	18,000	18,000
Woods Hole Channel	350,260	350,260
Canapitsit Channel	9,113	9,113
Westport River	3,000	3,000
Taunton River	475,811	475,811
Bass River	20,150	20,150
Powow River	50,941	50,941
Plymouth Harbor	512,882 (4)	512,882
Lynn Harbor	855,336	855,336
Weymouth Back River	75,741 (5)	75,741
Cross Rip Shoals, Nantucket Sound	65,555	65,555
Menemsha Creek, Martha's Vineyards*	-	-
Chatham (Stage) Harbor	50,260	50,260
Follock Rip Shoals, Nantucket Sound	1,814,242	1,814,242
Fall River Harbor	1,131,083	1,131,083
New Bedford and Fairhaven Harbor	2,320,221 (6)	2,320,221
	\$13,654,784	\$13,654,784

(1) Exclusive of \$ 10,000 contributed funds

(2) Exclusive of \$100,000 contributed funds

(3) Exclusive of \$ 62,000 contributed funds

(4) Exclusive of \$108,400 contributed funds

(5) Exclusive of \$ 20,000 contributed funds

(6) Exclusive of \$ 20,400 contributed funds

* Authorized in River and Harbor Act approved March 2, 1945.

No work or costs to date.

CONTRACTS MADE BY THE DIVISION OF WATERWAYS, DEPARTMENT OF PUBLIC WORKS
AND IN FORCE DURING THE YEAR ENDING JUNE 30, 1948.

Contract No.	Work	Contractor	Date	Condition of work	Contract Cost
919	Hydraulic engineering services, rivers and water courses in the towns of the State	Howard M. Turner	Jul 23 1946	Completed June 30 1947	923.23
929	Repairs to seawall at Surfside Beach, Scituate	Vincent Cairn	Sep 18 1946	Completed Jul 14 1947	24,451.89
940	Fill at New Bedford State Pier, New Bedford	John Kitson	May 21 1947	Completed Dec 10 1947	45,367.20
941	State Pier development, New Bedford	Merritt-Chapman & Scott Corporation	Dec 6 1946	Completed Nov 5 1947	301,364.27
946	Shore protection, Warrens Cove, Plymouth	Frederick V Lawrence	Jan 6 1947	Completed Aug 7 1947	24,038.48
960	Construction of Seawall in Duxbury	Thomas Brothers	Feb 25 1947	Completed Sep 15 1947	61,254.15
961	Shore protection at Singing Beach, Manchester	Larcourt, Inc.	Feb 19 1947	In progress	
962	Construction of seawall and wall repairs, Marshfield	Fred J. Wallace Company, Inc.	Feb 19, 1947	Completed Sep 29 1947	30,004.94
963	Shore protection westerly of Allens Harbor, Harwich	John Gallo	Mar 18 1947	Completed Aug 19 1947	5,700.00
975	Dredging West Bay and Cotuit Harbor, Barnstable	North Atlantic Dredging Company	Jun 10 1947	Completed Jul 18 1947	24,320.00
976	Dredging in Lake Anthony, Oak Bluffs	American Hydraulic Dredging Company	Jun 24 1947	Completed Sep 14 1947	5,490.00
977	Repairs to fender system, Cape Cod Canal Pier, Bourne	John Gallo	Jun 24 1947	Completed Jan 27 1948	5,400.00

Contract No.	Work	Contractor	Date	Condition of work	Contract Cost
979	Stone jetties, Wild Harbor, Falmouth	F. V. Lawrence	Jul 15 1947	Completed Oct 10 1947	8,972.64
981	Channel excavation and jetty repairs, Witchmere Harbor, Harwich	John Gallo	Aug 22 1947	Completed Apr 16 1948	4,525.80
995	Additional pier development at State Pier, New Bedford	Elliot & Watrous, Inc.	Dec 9 1947	In progress	
997	Dredging in Aunt Lydia's Cove, Chatham	American Hydraulic Dredging Company	Oct 28 1947	Completed Mar 6 1948	14,088.19
1000	Jetty construction at Bass River, Dennis & Yarmouth	F. V. Lawrence	Oct 27 1947	Completed Apr 14 1948	55,714.08
1002	Jetty repairs on Harwich Shore, Harwich	Turner & Breivogel, Inc.	Dec 16 1947	Completed Apr 15 1948	6,735.81
1006	Additions to Cold Storage Building at State Fish Pier in Gloucester	Farina Brothers	Dec 2 1947	In progress	
1007	Furnishing and installing additional equipment in Cold Storage Building at State Fish Pier in Gloucester	York Corporation	Dec 2 1947	In progress	
1008	Reconstruction of westerly jetty at Green Harbor, Marshfield	John Kitson	Nov 12 1947	In progress	-----
1013	Dredging in Provincetown Harbor, Provincetown	American Hydraulic Dredging Company	Apr 26 1948	In progress	
1015	Riprap, slope paving and filling, Atlantic Avenue, Oak Bluffs	Turner & Breivogel, Inc.	Dec 16 1947	Completed Feb 6 1948	6,499.50
1016	Dredging in Maraspin Creek, Barnstable	American Hydraulic Dredging Company	Feb 9 1948	Completed May 28 1948	16,200.00

Contract No.	Work	Contractor	Date	Condition of work	Contract Cost
1019	Construction and repair of jetties at Sagamore Beach, Bourne	John Gallo	Feb 9 1948	Completed Mar 30 1948	13,671.17
1020	Repair of jetties near entrance to Salt Pond, Falmouth	Turner & Breivogel, Inc.	Jan 6 1948	Completed Jun 18 1948	12,485.45
1023	Jetty construction, West Chop, Tisbury	Turner & Breivogel, Inc.	Mar 9 1948	In progress	
1024	Moving freight shed and Storage at the State Pier, New Bedford	Simensen & Fernandes	Jan 27 1948	Completed Apr 23 1948	6,000.
1035	Drainage ditch, Shawsheen River and Elm Brook, Bedford	Frank DiCenso Company	Apr 6 1948	In progress	
1038	Relocating portion of South River, Conway	Warner Brothers, Inc.	Mar 30 1948	Completed May 24 1948	2,461.00
1040	Stone riprap mound at Little Neck Ipswich	Henry W. Merry	Apr 28 1948	In progress	
1042	Dredging in Plymouth Harbor Plymouth	Bay State Dredging And Contracting Co.	Jun 18 1948	In progress	

DEPARTMENT OF PUBLIC WORKS - DIVISION OF WATERWAYS

RECEIPTS

DEPARTMENT INCOME
(Ordinary Revenue)

For 12 months
ending
June 30, 1948

Certified Copying Charges	77.00	
License Charges	1,814.75	
Sale of Miscellaneous Plans	1,479.00	
Cape Cod Canal Pier	5,548.38	
New Bedford Pier	6,650.58	
Plymouth Property	175.00	
Province Lands	1,561.50	
Gloucester Fish Pier	20,000.00	
Miscellaneous Receipts	370.24	
Pay Station Receipts	<u>.47</u>	37,676.92

IMPROVEMENT OF RIVERS
AND HARBORS TRUST FUND
(Chapter 91, General Laws)

Contributions from Towns, Individuals and Others	139,837.50
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SUMMARY OF EXPENDITURES BY DIVISION OF WATERWAYS

For 12 months
ending
June 30, 1948

General Expenses

57,072.28

Cape Cod Canal Pier	2,467.85	
Compensation of Dumping Inspectors	11.30	
Fall River Harbor Term. Facilities Loan	250,000.00	
Gloucester Fish Pier Additions	75,596.28	
Improvement of Rivers and Harbors	451,192.67	
New Bedford Pier Oper. and Maint.	15,217.60	
New Bedford Port Facilities	297,461.71	
Plymouth Property, Expenses of	4,764.06	
Province Lands, Expenses	9,895.45	
Repairing Damages	10,010.06	
Stream Clearance	9,790.31	
Town Boundaries, Surveying	29.00	
		1,126,436.29

AIRPORT

Second Airport Loan (8309)	1,584.38	
Third Airport Loan (8310)	79,898.54	
Fourth Airport Loan (8311)	2,926,598.88	
Fifth Airport Loan (8312)	1,797,643.69	
		<u>4,805,725.49</u>
		5,989,234.06

SUMMARY OF EXPENDITURES - ADMINISTRATIVE ACCOUNTS

For 12 months
ending
June 30, 1948

Commissioners, Associate Commissioners,
Personal Services of Clerks, Stenog-
raphers, and Commissioners' Travel
and Telephone Services, P. W. B.

74,842.26

I N D E X

ANNUAL REPORT FOR THE FISCAL YEAR ENDING JUNE 30, 1948

General Activities of the Department

Organization under Chapter 16, General Laws, as amended

Personnel

Special Acts

Special Reports to the Legislature

Recommendations for Legislation

RELATING TO HIGHWAYS

Bridges

Approval of Bridge Plans

Contracts for New Structures

Contracts for Alterations or Repairs to Existing Structures

Contemplated Work

Report at Request of Department Authorities

Report at Request of Local Authority

Review of Plans under Provisions of Chapter 85, Section 35, General Laws.

Contracts

Abolition of Grade Crossing

Chapter 890 Bridges

Construction of Town and County Ways (Chapter 90)

Construction and Reconstruction of State Highways (Chapter 81)

Federal Aid 100%

Maintenance

Miscellaneous Work

Public Works Building

Repairs and Improvement of Public Ways; (Exclusive of State

Highways in Certain Towns (Chapter 81)

Wash Borings

Expenditures

Construction and Improvement of Thru Routes

Construction and Repair, Town and County Ways (Chapter 90)

Federal Aid Highway Projects

Highways Engineering and Administration

Laboratory Equipment

Maintenance and Operation of Highways

Operation and Maintenance of Airports

Public Works Building, Operation and Maintenance

Reimburse City of Boston - Tunnel Plans

Repair and Improvement of Public Ways (Chapter 81)

State Highway Resurfacing

Stores and Equipment Operation

Federal Aid in Constructing Highways

General Statement

Highway Construction (Excluding Chapter 90 Work)

Maintenance Activities

- Bridge Maintenance
- Capital Outlay
- Chapter 81
- General Maintenance
- Roadside Development
- Snow Removal

Mileage of Surface (By Class)

Mileage and Type of Surface by Districts, Surveys, Plans, Estimates and other work

Materials Testing Laboratory

Permits

Petitions, Meetings and Hearings

Projects

Report on Chapter 90 Activities

Right of Way

Specifications, Approval of

Traffic

- Accident Statistics
- Boston Origin and Destination Survey
- Highway Illumination
- Highway Planning Survey
- Permits
- Signals
- Signs and Pavement Markings
- Studies
- Town Advice

DIVISION OF WATERWAYS

General Edward Lawrence Logan Airport

- Construction
- Contracts
- Legislation

Barnstable, Hearing, Shore Protection Work

- Dredging West Bay and Cotuit Harbor
- Dredging Maraspin Creek

Reimbursement for Hurricane Damage Under Chapter 734 Acts of 1945 and Chapter 500 Acts of 1947 Approved

Barnstable County

Approved payment of 28% of the reimbursement cost, and payments on shore protection work under Chapter 734 Acts of 1945 and Chapter 500, Acts of 1947

Bedford

Drainage Ditch, Shawsheen River and Elm Brook Boundary Line, agreement, Boston, Bennington St. and Chelsea Creek

Bourne

Construction and Repair of Jetties, Sagamore Beach

Brewster

Hearing, Construction of Groins

Cape Cod Landing Pier, Repairs to Fender System

Use of Pier given to Massachusetts Maritime Academy

Chatham, Dredging in Aunt Lydia's Cove

Cheshire, Petition denied for improving Kitchen Brook

Conway, Relocating a portion of the South River

Contracts Made and in Force During the Year Ending June 30th., 1946

Dennis Shore, Hearing on Construction of groins

Dennis-Yarmouth, Bass River, Jetty Construction

Duxbury, Seawall completed

Expenditures, Summary of

Fairhaven, Report filed, Chapter 54 Resolves 1948, Improvement of Harbor

Fall River, Purchase Fall River Pier, of the New York, New Haven and

Hartford Railroad Report of Fall River

Falmouth, Hearing, Jetties and Groins

Jetties, Wild Harbor

Repair, Jetties, Salt Pond

Federal Appropriations and Expenditures

Gloucester, Hearing, Dredging inner harbor and Sea Wall repairs

State Fish Pier

Great Ponds

Harwich, Hearing, Dredging Allens Harbor

Shore Protection, Allens Harbor

Harwich Shore, Hearing, Shore Protection

Jetty Repairs

East Harwich, Hearing, Dredging

West Harwich, Hearing, Dredging entrance channel, Herring River

Witchmore Harbor - Harwich, Hearing, Dredging

Channel excavation and Jetty Repairs

Income, Statement of

Ipswich, Riprap, Little Neck

Licenses and Permits

Manchester, Shore Protection, Singing Beach

Marshfield, Wall Repairs and Sea wall

Westerly, Jetty, Green Harbor

Nantucket, Hearing, Redredging Channel

New Bedford, State Pier

New England Interstate Water Pollution Control Compact

Oak Bluffs, Dredging in Lake Anthony

Riprap, Atlantic Avenue

Plymouth, Hearing, Shore Protection

Dredging Harbor

Shore Protection, Warrens Cove

Provincetown, Dredging Harbor

Airport lease

Sale of land under Chapter 314, Acts of 1947

Province Lands

Rivers, Harbors, Tidewaters and Foreshores, Outside of Boston Harbor

Sandwich, Hearing, Groin Construction

Rejection of Bid, Dredging Sandwich Harbor

Scituate, Hearing, Riprap and Sea wall Repairs

Repair, Sea wall, Surfside Beach

Tisbury, Jetty, West Chop

Truro, Hearing, Survey Harbor Entrance

United States Geological Survey

Ware, Special Report, Chapter 37, Resolves 1947 Flood Control

Protection Filed

Yarmouth, Hearing, Groin System, Town Beach, Parkers Neck

Removal of Obstruction, Bass River Channel

Jetty Construction